State of North Carolina Department of Health and Human Services

Division of Medical Assistance

North Carolina State Medicaid

Health Information Technology Plan

Submitted by:

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CMS Comments Addressed

The following is provided in response to the 2016 CMS conditional approval letter.

CMS Comment	Description/Response/Clarification
In the narrative to describe the current extent of EHR adoption by practitioners and by hospitals, it was stated that as of December 2012, NC estimated 92 EHs qualify but no current information is given - Recommend a new environmental scan be conducted and give specific number for number of participants, EPs and EH/CAH and what stage they are in AIU/MU/completed. Also should give specific number of non-eligible providers.	2640 unique EPs have completed AIU only, 3500 completed at least one year of MU, 1061 last participated in Stage 1 MU, 2428 participated in Modified Stage 2. There are 102 EHs participating in the program – 84 have received all three payments; 18 are still eligible to receive payments. See A.1.2.
The broadband survey is out of date - NC Broadband conducts a Citizen Survey on broadband adoption "every other year with the last survey conducted in 2011" via telephone survey. The grant covered one survey done in 2010 that targeted health care providers. It is unclear what North Carolina's broadband status is at this time - Recommendation: Provide updated broadband information within the SMHP; include your broadband availability map.	added latest available information (June 2016) – NC State Broadband Plan, which was based in part on 2015 survey of ~3500; added 2017 NC Broadband Map information; deleted outdated information. See A.2.
Augment the narrative about the State's relationship with other HIT/HIE entities as described on page 57 - Recommendation: Discuss how these relationships help meet the State health goals using the MU capabilities and HITECH systems. Describe plans to maximize/improve the relationships.	Details about the statewide NC HIEA and how they are using relationships, legislation and HITECH systems to leverage health data (including MU) and advance healthcare in NC is discussed throughout the document, particularly in Section A.6 and Section B.
In response to the request to describe if the State have Veterans Administration or Indian Health Service clinical facilities that are operating EHRs, there is no description of what is happening with the EHR to HIE connectivity for VA and IHS facilities - Recommendation: Provide more specific up to date information.	Section A.4 has been updated with recent activities and future plans of the NC HIEA facilitating the exchange between VA facilities and other private/public health institutions via the link to the eHealth Exchange and the agreement between NC HIEA and Cherokee IHS to integrate their RPMS system with NC HealthConnex.

In describing the role of the MMIS in the SMA's current HIT/E environment, it was indicated that NC-MIPS was fully integrated with NCTracks for payment and provider data in 2013 - Recommendation: Update this section with more recent information.	Corrected this information and added plan to automate payments through connection of NC-MIPS and NCTracsk. See C.4.3 of the SMHP and Section 3.2 and Appendix G of the HIT IAPD (July 2017 update).
In response to the question about what State activities are currently underway or in the planning phase to facilitate HIE and EHR adoption, additional information is requested - Recommendation: Discuss the projected Medicaid Provider targets for 2016 (last year of AIU).	The Incentive Program conducted an outreach push for 2016 to encourage all eligible providers to attest by the end of the tail period. See Appendix 6 for details.
To better explain how the activities planned under the ONC-funded HIE cooperative agreement and the Regional Extension Centers help support the administration of the EHR Incentive Program - Recommendation: Please identify how HIEs are being used to support the administration of the EHR incentive program.	Extensive details of the NC HIEA and how its core services align with MU objectives to help support the EHR Incentive Program can be found in Section B.2.6.
For the narrative in response to the request to address other activities that the SMA currently has underway that will likely influence the direction of the EHR Incentive Program over the next five years - the narrative on page 65 discusses the electronic data exchange infrastructure in connection with healthcare quality initiatives, and also covers interactions with other State projects, however the information presented is from 2012. Please provide an updated status.	Sections A.10, A.11 and A.12 have been updated to reflect the current landscape of healthcare quality initiatives and interactions with other State projects.
To expatiate on any recent changes (of a significant degree) to State laws or regulation, the State's response indicated that 2 bills that were enacted in 2011 regulate the used of statewide HIE Network in a manner consistent with HIPAA and made conforming changes to specific sections in NC law that were identified barriers to MU and electronic HIE i.e. based on NC's response it doesn't appear that there have been any recent State law or regulations changes that affect the EHR Incentive Program. - Recommendation: Provide up to date information and note that responses to questions should address changes since the last SMHP update (not before).	Updated information in A.11 State Law and Regulatory Changes to Support HIT Activities in NC. HIE-related NC Session Law 2015-241 Section 12A.5 was amended in June 2017 and continues to promote connectivity through the NCHIEA.
For the interoperability status of the Immunization registry and Public Health Surveillance reporting database(s) - Recommendation: Include plans for future specialized registries.	Updated DPH information. DPH is currently working on diabetes registry and future plans include asthma and cardiovascular registries. See A.13.
Though the award of Transformation Grants or a CHIPRA HIT grants are dated, it doesn't appear that	Organizations reported their HIT-related project funding in Section A.

any other grants have been awarded since the last SMHP update - Recommendation: Provide direct response about grants awarded since last SMHP update.	
In response to what specific HIT/E goals and objectives the SMA expects to achieve in the next five years - Recommendation: Project the number of EPs attesting for AIU through 2016.	The number of EPs who successfully attested through 2016 is 6140, including 86 who have received all six payments. Goals include increasing return rate, see C.2.2.
How will the SMA's IT system architecture (potentially including the MMIS) look like in five years to support achieving the SMA's long term goals and objectives - Recommendation: Provide more recent numbers on the Medicaid providers and local programs are interfacing with the SMA IT system.	NC-MIPs and AVP have been updated to comply with 2017 changes. System enhancement and update will remain in-house for the life of the program. Proposing project connecting NC-MIPS and NCTracks- see C.4.3
To better describe how Medicaid providers interface with the SMA IT system – Recommendation: 1) Discuss plans to leverage the SLR for purposes beyond the incentive program. 2) Provide a direct response to the question: How will Medicaid providers interface with the SMA IT system as it relates to the EHR Incentive Program (registration, reporting of MU data, etc.)?	1) SLR data is shared with NC AHEC for collaboration toward common goals. See A.9. 2) Providers interface directly with NC-MIPS for registration and reporting MU. See Appendix 2 for screenshots.
Additional information about what specific steps the SMA planning to take in the next 12 months to encourage provider adoption of certified EHR technology would be beneficial - Recommendation: Discuss the plans to maximize MU and AIU through 2016.	EHR Incentive Program crafted and executed an outreach plan for maximizing participation in 2016 (see Appendix 6) and is updating communication plan for outreach to providers scheduled for MU.
To expatiate on how the SMA will assess and/or provide technical assistance to Medicaid providers around adoption and meaningful use of certified EHR technology - Recommendation: 1) Discuss how the SMA will assess and/or provide technical assistance to Medicaid providers for MU technology. 2) Discuss expanding to Behavioral Health, LTC for adoption of CEHRT, movement by EPs/EHs through MU stages and participation in HIE by all.	1) DMA has contracted with AHEC to provide technical assistance, see sections A.5.2 and A.9. EHR Incentive Program TA discussed in section B.5.1. 2) The NC HIEA created a strategy to align itself with Modified Stage 2 and Stage 3 MU objectives, see section B.2.6.
In response to whether the SMA anticipates the need for new State legislation or changes to existing State laws, the information in the section appears to be outdated as it speaks to events in 2011 - Recommendation: Describe if the State has the need for new State legislation or changes to existing laws in order to maintain a successful EHR Incentive Program (for example, are there any State laws that may restrict the exchange of certain kinds of health information).	No changes in NC law that would negatively impact the EHR Incentive Program. Amendment of NC Session Law 2015-241 Section 12A.5 in June 2017 continues to promote connectivity through the NCHIEA and should positively impact the EHR Incentive Program. See B.2.1.

In response to how the SMA will verify whether EPs are hospital-based or not – the information provided appears to be out of date; for example page 111 states that "The NC Medicaid EHR Incentive Program has ramped up its outreach efforts over 2012 and will continue to do so in 2013. Some examples of 2012-13 activities include:...". This also is more outreach focused than it is focused on verification of being hospital based or not.	Included information given to providers on website and attestation guide, see Appendix 2 for screenshots. Will also review for audit strategy, which will be submitted separately.
To update the response to how the SMA will verify the overall content of provider attestation - Recommendation: Address NC's process for verifying attestations via the Flexibility Rule.	See section C.3 and table 16, which describe validations and updates made for CMS' 2017 rules.
In response to whether the SMA will be proposing any changes to the MU definition as permissible per rule-making, part of the information required is to describe the State's current tail period and discuss the process to determine if the tail period should be extended - the tail-period discussed in this SMHP is not current. Recommend updating with current information.	See section C.3.1 where tail period of 120 days is requested.
What is the SMA's IT timeframe for systems modification – The narrative in this section indicated that "the NC MIPS should reopen in July 2016" - Recommendation: Provide update on when system reopened, if it hasn't already. The State's IAPD was just recently approved so please indicate the high level details of that, during the next SMHP update.	NC-MIPS opened July 2016 for 2016 MU for EPs and May 2017 for 2017 MU for EPs and EHs, see C.4
The narrative about the SMA's anticipated frequency for making the EHR Incentive payments (e.g. monthly, semi-monthly, etc.) could benefit from a discussion of plans to explain any incentive payment changes in light of program rule changes.	Incentive payments are made bi-weekly, see C.4.1
To augment the SMHP narrative about the process to assure that all hospital calculations and EP payment incentives are made consistent with the Statute and regulation, no update on the number of negative audit findings was provided and it indicated that audits will begin in 2013/2014 - Recommend updating information.	Description of process to assure payments are correct will be elaborated on in audit strategy, which will be submitted separately
In the description of the role of existing SMA contractors in implementing the EHR Incentive Program, all mention of contractors relate to activities in 2012 - Recommendation: Update contractor information.	NC-MIPS was moved in-house in 2013. As of June 2017, it is maintained by an in-house development team made up of a mix of State employees and contractors. See C.4.1.

The comprehensive audit strategy should be saved and submitted as a separate, stand-alone document. The State's audit strategy will go through a separate review and approval process by CMS, and it should NOT be made public with the rest of the SMHP - Recommendation: Remove audit strategy from this SMHP update (and submit separately).	Audit strategy has been removed. We will submit the audit strategy updates separately, by August 31, 2017.

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NC Medicaid Health Information Technology Plan Overview

Executive Summary

This State Medicaid Health Information Technology (HIT) Plan (SMHP) provides an overview of HIT initiatives in North Carolina and outlines the NC Department of Health and Human Services (NC DHHS), Division of Medical Assistance (DMA) strategy through 2018 for implementing the Medicaid Electronic Health Record (EHR) Incentive Program (the Program) authorized under Section 4201 of the American Recovery and Reinvestment Act of 2009 (ARRA).

The sections of this SMHP include a description of the current state of HIT in North Carolina, approach to administering the EHR Incentive Program, and HIT roadmap. This document will be updated as NC continues to track and plan for meaningful use (MU) of certified electronic health record technology (CEHRT).

Section A details the various HIT initiatives that are in progress across the state.

Section B details the goals for HIT initiatives including programs through the NC AHEC and NC ORH. This section also contains background on the state's goals in alignment with the NC Health Information Exchange Authority (NC HIEA), which operates the state-designated HIE, NC HealthConnex.

Section C describes North Carolina's plans for administration and oversight of the EHR Incentive Program. The Department made an early and significant investment in this Program, distributing the first incentive payments to providers in March 2011, and, as of the close of Program Year 2016, had 6,140 unique professional participants – 6,054 eligible to continue receiving one or more incentive payments and 86 who have received all six payments.

Finally, Section D addresses the state's HIT Roadmap, including goals and benchmarking activities. North Carolina understands that this journey will require persistence, ongoing analysis of adoption patterns, and regular adjustment of outreach efforts to be successful.

North Carolina will remain focused on the tasks and goals herein to contribute to a more efficient, more effective healthcare system and a healthier population. This SMHP represents one very important component of how NC DHHS will achieve its mission to "protect the health and safety of all North Carolinians and provide essential human services."

Role of Medicaid in State HIT and HIE Coordination

In response to the opportunities and requirements for developing and overseeing health IT activities in the state including the NC Medicaid EHR Incentive Program, North Carolina Medicaid has adopted a multi-level planning strategy that simultaneously addresses: (1) the internal needs of DMA; (2) coordination across North Carolina government agencies; and (3) cooperation with public-private efforts. This organizational structure is graphically depicted below in **Figure 1**.

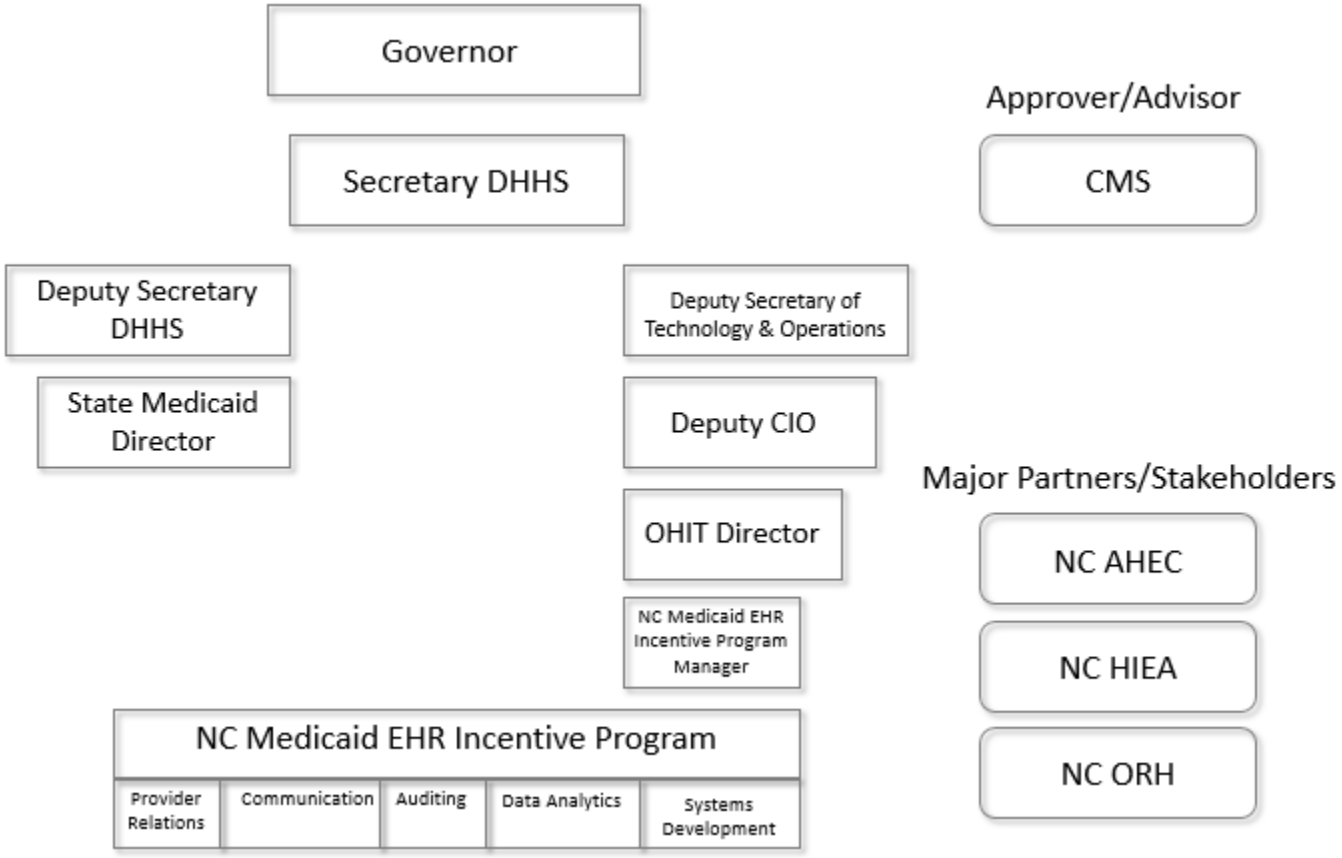


Figure 1 - North Carolina HIT Organizational Structure

DMA Medicaid Information Technology Architecture (MITA) and HIT Coordination Activities

NC DHHS coordinated its HIT efforts with the MITA transition plans for the replacement MMIS, called the NC Transparent Reporting, Accounting, Collaboration and Knowledge Management System (NCTracks). NC DHHS recognizes that there is a synergistic connection between HIT activities and the MITA "To Be" assessment, which considers the state's goals for HIT in the future vision for the Medicaid and Behavioral Health enterprises.

DMA's all-encompassing vision for the future of the North Carolina Medicaid enterprise focuses on two key goals, each of which drove DMA's vision items and the "To Be" assessment of the MITA and state-specific business processes: North Carolina will become a health policy leader; and, the Medicaid enterprise will use the power of the Medicaid program to improve the standard of care across the state.

An initiative is under way to reform the state's Medicaid Program. The Agency has started working on documenting the Business Requirements for the reform. Medicaid reform has three objectives which were mandated by the legislature:

1. Create a predictable and sustainable Medicaid program for North Carolina taxpayers.
2. Provide care for the whole person by uniting physical and behavioral health care.
3. Increase administrative ease and efficiency for North Carolina Medicaid providers.

These objectives fall right in line with the objectives of MITA Version 3.0.

The outcome of the Medicaid Reform initiative will guide the future of the Medicaid Enterprise in North Carolina. The five-year vision of the Medicaid Enterprise will position the state at a level 3 capability maturity rating on the MITA Version 3.0 Capability Maturity Matrix.

The agency's goal is to continue to adopt and use national standards, and increasingly share data to improve access to health care information for stakeholders. The agency will continue to promote collaboration and coordination of health care service delivery among all state agencies, statewide data sharing, and adoption of reusable business services. In five years, the agency wants to be further able to concentrate on its core competencies due to a lessened burden from administrative operations.

Interagency Coordination

Per the *Session Law (SL) 2009-0451* of the NC General Assembly, the NC DHHS, in cooperation with the State Chief Information Officer (SCIO), coordinates HIT policies and programs within the state. NC DHHS' goal is to avoid duplication of efforts and to ensure that each entity undertaking HIT activities leverages its greatest expertise and technical capabilities in a manner that supports state and national goals.

This law also stipulates that NC DHHS shall establish and direct a HIT management structure that is efficient and transparent and that is compatible with the ONC governance mechanism. NC DHHS was further directed to provide reports on the status of HIT efforts to the Senate Appropriations Committee on Health and Human Services, the House of Representatives Appropriations Subcommittee on Health and Human Services, and the Fiscal Research Division and establish an Office of Health Information Technology (OHIT). From May 2013 until April 2014, the OHIT was 100 percent vacant. An OHIT director was hired April 2014 and served through July 2016. The OHIT had been vacant until July 2017 when a new director was hired.

North Carolina convened the state's healthcare leaders and HIT and HIE stakeholder communities through multiple forums from 2009-2010. Those efforts resulted in the decision to establish the NC HIE, a public-private partnership to govern statewide HIE services in North Carolina. Since this time, the statewide health information exchange has gone through two major governance transitions. In December 2012, North Carolina Community Care Networks, Inc. (N3CN)'s board decided to acquire the NC HIE as a subsidiary. In October 2015, the NC General Assembly passed NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2015-264, which transferred the statewide HIE network from the Community Care of North Carolina (CCNC)/North Carolina Community Care Networks (N3CN) structure to a new state agency under the SCIO called the North Carolina Health Information Exchange Authority (NC HIEA), effective February 29, 2016. The new legislation provides for significant state funding to the statewide HIE network, now called NC HealthConnex. NC Session Law 2017-57 requires hospitals, physicians, physician assistants, and nurse practioners that have an EHR system and rendered services paid for with Medicaid or other State-funded health care funds be connected to the HIE and begin submitting demographic and clinical data by June 1, 2018. All other providers of Medicaid and State-funded health care services must submit demographic and clinical data by June 1, 2019. LMEs/MCOs must submit encounter and claims data as appropriate by June 1, 2020. More information on statewide HIE efforts and Medicaid coordination can be found in *Section A.6 Health Information Exchange* and *Section B.2 Advancing the Objectives of HIE*.

NC Medicaid also collaborates with North Carolina's Area Health Education Center (AHEC) to promote the acceleration of adoption and MU of CEHRT at the practice level.

A. North Carolina's "As-Is" HIT Landscape

A.1 EHR Adoption by Practitioners and Hospitals

To determine the status of North Carolina's "As-Is" HIT landscape at the beginning of NC DMA initiatives in 2010, DMA developed and participated in two surveys of NC Medicaid providers. One pertained specifically to EHR usage and the second pertained to broadband availability. A follow-up survey on EHR usage and specifications as well as perceived benefits of MU of CEHRT was conducted in December 2012. Summaries of these early surveys are included below for historical reference and context.

The five-year follow-up survey to the 2012 survey is planned for Fall 2017. The 2017 survey will be designed and executed by the NC Medicaid EHR Incentive Program team's program manager, communications specialist, provider relations specialist, and data analyst. The 2017 survey will aim to gauge current extent of EHR adoption and types of EHRT used across the state. Results will be included in the FFY 2019-2020 SMHP, which will be submitted in July 2018.

A.1.1 Early EHR Surveys

In 2010, North Carolina was engaged in the re-credentialing and enrollment of Medicaid providers using a new enrollment process and application. As part of this process, DMA requested that Medicaid providers complete a survey pertaining to their current and planned EHR use.

In December 2012, the NC Medicaid EHR Incentive Program conducted another survey to gauge EHR adoption and related information among Medicaid professionals. A separate survey was conducted for Medicaid hospitals in collaboration with the North Carolina Hospital Association (NCHA).

Responses to these surveys have been divided into two sections: eligible professionals and eligible hospitals.

A.1.1.1 Early EHR Surveys – Eligible Professionals

2010

The following is a summary of the survey results:

- Sixty-eight percent stated that they also saw Medicare patients, 24 percent did not see Medicare patients, and 8 percent did not respond.
- There was a 93 percent response rate to the question, "Are you currently using an EHR/EMR?" Two percent did not know, 42 percent were not using EHR/EMR, 19 percent used part paper and part electronic, and 29 percent used all electronic.
- In total, 141 different products were identified by EHR users. Of these 141 products, the following had the highest percentage of use (note, some amalgamation of responses was made due to very similar but not identical responses): 17 percent had Allscripts, 11 percent had Centricity, and 7 percent had Misys.
- EHRs were purchased between 1981-2010, with the majority of systems being purchased in 2004 and later. Thirty-four percent stated that their system met certification standards. In a related question to those without an EHR, 14 percent of all 1,360 respondents indicated they would purchase an EHR in the next six to 12 months and 32 percent responded "no" to purchasing an EHR within the next six to 12 months.
- In response to the question, "Is the EHR integrated with the hospital systems admission system?" 18 percent said "yes," 57 percent indicated they did not know or said "no," and 19 percent did not respond.
- The major barriers to EHR adoption were lack of capital and finding an EHR that met the provider's needs.

- 30 percent stated they were using electronic prescribing and 60 percent stated that they were not.

2012

As 2010-2011 saw the rollout of various HITECH initiatives, DMA determined that another survey would be helpful in determining how the EHR landscape has changed. On December 12, 2012, a web-based survey was sent out to all Medicaid-enrolled providers via email. It should be noted that due to limited sample size (1,143 providers), these results are not overly generalizable.

The following is a summary of the survey results (note, some amalgamation of responses was made due to very similar but not identical responses):

- Of the Medicaid-enrolled providers who responded, 64 percent of the providers were aware of the NC Medicaid EHR Incentive Program
- When asked, "Does your practice currently using an EHR/EMR?" of the 83 percent Medicaid-enrolled providers who responded, 55 percent currently used an EHR/EMR in their practice and 45 percent did not already use an EHR/EMR in their practices.
- In total, 431 participants responded to this question and identified specific EHRs being utilized in their practice. Of these products, the following had the highest percentage of use: 13 percent had a version of Allscripts, four percent had a version of eClinicalWorks, and four percent had a version of Epic.
- Two questions were targeted to providers who had not already adopted EHR/EMR technology:
    - Of the providers who have not yet adopted EHR/EMR technology, responded to the question "…do you plan on purchasing one in the next six to 12 months?" Of the 61 respondents, 19 percent answered 'Yes'; 28 percent answered 'No'; and, 53 percent had already adopted a certified EHR technology.
    - Of the 73 percent of providers who answered the question "what barriers to EHR adoption do you face?" the most common reason for not adopting the technology was financial barriers.
- Two questions were targeted to providers who had already adopted EHR/EMR technology:
    - Of the 40 percent providers with EHR/EMRs who responded to the question, "to what degree has (the EHR technology) affected workplace efficiencies?": **73 percent responded that the EHR positively affected their workplace efficiencies**; 18 percent indicated their workplace efficiencies have been negatively impacted by EHR/EMR technology; and, nine percent of respondents indicated their practice has not been negatively or positively affected by EHR/EMR technology.
    - Of the 40 percent of providers who have adopted EHR/EMR technology who responded to the question, "to what degree has (the EHR technology) affected the quality of patient care?": **62 percent responded that the EHR positively affected the quality of patient care**; seven percent indicated their quality of patient care has decreased since implementing EHR/EMR technology; and, 31 percent saw no difference in the quality of patient care.
- In response to the question, "What are your plans for participation in the EHR Incentive Program(s)?": of the 65 percent of participants who responded to this question, 21 percent of providers are already participating in the NC Medicaid EHR Incentive Program; 14 percent are already participating in the Medicare EHR Incentive Program; 27 percent plan to participate in the NC Medicaid EHR Incentive Program; 11 percent plan to participate in the Medicare EHR Incentive Program; and 26 percent of providers do not plan to participate in either EHR Incentive Program.
- The top barrier to EHR adoption reported was amount of capital needed to acquire and implement an EHR.

A.1.2 Eligibility for the NC Medicaid EHR Incentive Program

A.1.2.1 Early Estimates for Eligible Professionals

A 2010 analysis estimated 3,098 "preliminarily qualified" EPs based on the number of Medicaid providers with an eligible provider type who had been paid by Medicaid for at least 1,512 claims (1,008 for pediatricians) in 2009. As 61 percent of 2010 survey respondents currently used or planned to purchase an EHR in 2010, this percentage applied to the 3,098 "preliminarily qualified" professionals resulted in a rough estimation of 1,889 possible EP participants in the Program's first year (2011).

The same claims analysis conducted in 2010 was repeated in December 2011 and yielded an estimate of 3,383 "preliminarily qualified" professionals, and again in 2012 and yielded an estimate of 4,478 "preliminarily qualified" professionals.

Experience has shown that the estimated volume of qualifying providers may vary significantly from the actual number of program participants due to several variables; among them, the Stage 2 Final Rule allowed Medicaid-enrolled zero-pay encounters to count toward a provider's patient volume threshold, EPs may average more or less than three patients per hour, and certain billing practices by NC Medicaid providers may not mirror actual patient encounters.

The actual number of professionals who have participated in the Program by successfully attesting and receiving payment at least once is 6,140. Of those, 86 received their sixth, and final, payment in Program Year 2016.

A.1.2.2 Eligible Hospitals

To identify "potentially eligible" North Carolina hospitals, an analysis was conducted utilizing NC Medicaid annual cost reports. Acute care hospitals must meet Medicaid patient volume thresholds of 10 percent (children's hospitals are exempt from this requirement). North Carolina had 112 Medicaid-enrolled hospitals that qualify for incentive payments based on hospital category (e.g., acute care, children's, and critical access within the CCN ranges defined by CMS) and in 2010 through 2012, it was estimated that 92 qualify based on the required Medicaid volume threshold.

As of June 20, 2017, NC Medicaid EHR Incentive Program payments totaled $142,353,024. There are 102 EHs who have received an incentive payment from the NC Medicaid EHR Incentive Program – 10 have received only one payment, 8 have received two payments, and 84 have received all three payments.

A.2 Broadband Survey

On June 21, 2016, the NC Broadband Infrastructure Information Office (IO) released the NC State Broadband Plan. The Broadband IO surveyed 3,500 local leaders and gathered feedback from more than a dozen stakeholder listening sessions and discussions with nearly 80 subject matter experts. The two common themes that emerged from their research were active and engaged communities and their partnerships with private sector internet service providers are the biggest factors in bridging existing digital divides. Therefore, the plan's recommendations encourage communities to be active participants in the development process. The plan also looks at ways to enable new health care technologies and provide the necessary tools to public safety responders to ensure North Carolinians' safety.

Based on the survey and SME input, the NC State Broadband Plan included seven recommendations specific to broadband and telehealth:

1) Better leverage the Healthcare Connect Fund
2) Create telehealth best practices for healthcare providers

3) Broadband to all healthcare facilities
4) Healthcare providers market low-cost options for broadband in patients' homes
5) Remote monitoring pilots
6) Medical reimbursements for broadband service
7) Develop public-private partnerships to increase infiltration of telehealth services into the healthcare system

For more information, the full plan is available at https://ncbroadband.gov/connecting-north-carolina-state-broadband-plan/.

The NC Broadband Map is an open-source, interactive GIS (Geographic Information System) map that is intended to display where broadband is available as well as to identify unserved and underserved areas of the state, by census block or street segment. The map outlines what types of broadband technologies – including DSL, cable, mobile wireless, fixed wireless and fiber – are available to households statewide and which companies are offering these services. Users can query information by plugging in a street address or selecting a specific technology type.

To use the 2017 NC Broadband Map, visit https://openmap.ncbroadband.gov/.

A.3 Federally Qualified Health Centers and HIT/HIE

The North Carolina Community Health Center Association (NCCHCA) was formed in 1978 by the leadership of community health centers, NCCHCA is comprised of membership from 41 health center grantees (including one migrant voucher program) and 1 Look-Alike organization (membership of 1 new start organization is pending). NCCHCA is singularly focused on the success of health centers. NCCHCA also seeks support from foundations, corporations, and other private entities to increase the access of primary healthcare to all North Carolinians. In addition, NCCHCA helps communities to create new health centers or expand existing ones.

NCCHCA is the HRSA funded state **Primary Care Association (PCA)**. The non-profit, consumer-governed Federally Qualified Health Centers (FQHCs) we represent provide integrated medical, dental, pharmacy, behavioral health, and enabling services to nearly one-half million patients in North Carolina. FQHCs receive federal assistance to provide sliding-fee services to assure no one is denied access to care. NCCHCA represents FQHCs to state and federal officials and provides training and technical assistance on clinical, operational, financial, administrative, and governance issues.

NCCHCA is also a **HRSA Health Center Controlled Network (HCCN)** grantee. Participating in the HCCN - Carolina Medical Home Network (CMHN) -health centers have the opportunity to work together on quality improvement and operational system redesign initiatives and engage in payment reform models through the Independent Practice Association (IPA) and Accountable Care Organization (ACO) initiatives.

NCCHCA is the sponsor and managing partner of **Carolina Medical Home Network (CMHN)**, which serves as the clinical and operational performance improvement organization of NCCHCA and member health centers. CMHN is a 33 member HRSA funded Health Center Controlled Network (HCCN) currently in the second three-year grant cycle. All members are NC health centers. CMHN provides its members with data analytics, quality improvement, and Health Information Exchange connectivity to improve cost, quality, and outcomes of care.

Carolina Medical Home Network – Accountable Care Organization (CMHN-ACO) is a partnership of 8 NC health centers that have entered into the Medicare Shared Savings Program (one-sided model). Currently in Program Year 3, CMHN-ACO received funding from the Center for Medicaid and Medicare Services (CMS) for ACO Investment Model (AIM) to support care coordination efforts at ACO member health centers and network administrative services. NCCHCA launched a Data-Informed Outreach project in collaboration with CMHN that supports community health workers in health centers to augment care coordination efforts. CMHN-ACO serves as the pilot for identification of population health strategies to scale up to the larger CMHN network. For 2017, two additional CHCs will join the ACO.

Carolina Medical Home Network – Independent Practice Association (CMHN-IPA) is a network of 27 NC health centers striving towards clinical integration with the goal of leveraging size, scope and coordinated performance improvement in third-party payer negotiations. The IPA couples CMHN-ACO tested methods with business strategies to develop advantageous network-level contracts with payers.

NCCHCA's MISSION
To promote and support patient-governed community health care organizations and the populations they serve.

NCCHCA's VISION
Every North Carolina community will have access to a patient-centered, patient-governed, culturally competent health care home that integrates high quality medical, pharmacy, dental, vision, behavioral health, and enabling services without regard to a person's ability to pay.

A.4 Veterans Administration and Indian Health Service EHR Program

In the early days of the HITECH Act, ONC requested that NCHICA implement the Nationwide Health Information Network (NwHIN) to serve as a compliant gateway for a mature Health Information Organization (HIO) in North Carolina. The Western North Carolina Health Network (WNCHN) served as the HIO and the Asheville Veterans' Affairs (VA) Medical Center served as the primary partner in this project. The Asheville VA Medical Center provides care to approximately 100,000 veterans from Western North Carolina, upstate South Carolina and northern Georgia, with many of those individuals treated at WNCHN facilities.

The project was completed in September 2011, and the Asheville VA Medical Center became an early participant in the NwHIN, now called the nationwide eHealth Exchange. For more on the project, see *Section A.5.11.3 North Carolina Healthcare Information and Communications Alliance, Inc.*

NC HIE had a series of discussions with VA and *VistA* representatives in 2013-2014, and concluded that the best path for collaboration would be via each organization's connection to the nationwide eHealth Exchange. The NC HIEA maintains this plan to facilitate exchange between NC's VA facilities and other public and private healthcare institutions via the link to eHealth Exchange, and will explore testing opportunities in 2017-2018.

Table 1 below lists the hospitals and clinics operated by the VA in North Carolina as of June 2016. VA facilities use various versions of the VA-standard EHR system, *VistA.*

VA Medical Center	
Asheville:	Asheville VA Medical Center

Durham:	Durham VA Medical Center
Fayetteville:	Fayetteville VA Medical Center
Salisbury:	Salisbury - W.G. (Bill) Hefner VA Medical Center
Outpatient Clinic	
Fayetteville:	Fayetteville Dialysis Clinic
Fayetteville:	Fayetteville Health Care Center
Greenville:	Greenville Health Care Center
Hickory:	Hickory CBOC
Raleigh:	Blind Rehabilitation Outpatient Clinic
Raleigh:	Brier Creek Dialysis Clinic
Supply:	Brunswick County
Community Based Outpatient Clinic	
Charlotte:	Charlotte CBOC
Charlotte:	Charlotte Health Care Center
Durham:	Durham Clinic
Durham:	Hillandale Road Outpatient Clinics 1 & II
Elizabeth City:	Albemarle Primary OPC
Franklin:	Franklin CBOC
Goldsboro:	Goldsboro Community Based Outpatient Clinic
Hamlet:	Hamlet CBOC

Jacksonville:	Jacksonville CBOC
Kernersville:	Kernersville Health Care Center
Morehead City:	Morehead City CBOC
Pembroke:	Robeson County CBOC
Raleigh:	Raleigh CBOC
Raleigh:	Raleigh II CBOC
Rutherfordton:	Rutherford County CBOC
Sanford:	Sanford CBOC
Wilmington:	Wilmington HCC
Vet Center	
Charlotte:	Charlotte Vet Center
Fayetteville:	Fayetteville Vet Center
Greensboro:	Greensboro Vet Center
Greenville:	Greenville, NC Vet Center
Jacksonville:	Jacksonville Vet Center
Raleigh:	Raleigh Vet Center
VISN	
Durham:	VISN 6: VA Mid-Atlantic Health Care Network

Table 1 - Hospitals and Clinics Operated by the Veterans Administration

The Indian Health Services and the Cherokee Indian Hospital Authority

The Cherokee Indian Hospital (CIH) serves more than 14,000 members. They implemented an EHR system—the Resource Patient Management System (RPMS) system—in 1986. The IHS graphical user interface (GUI) was implemented in 2004. The GUI provides the capability to process both administrative and clinical data, and provides the Indian Health Services (IHS) Office of IT support, thereby lowering costs and enhancing functionality.

As part of the 2014 Certified Electronic Health Record Technology (CEHRT), Indian Health Service created a personal health record (PHR) that will assist patients in accessing some of their medical information via a web browser at home or on a mobile device. By using the PHR, patients can view, download, and transmit demographic information, medications, lab results, problems, vital signs, immunizations, and other visit-related information.

For more information on CIHA, visit http://cherokeehospital.org/.

A.5 Stakeholder Involvement

The resources available through ARRA represent not only an unprecedented opportunity to help forge these unique elements into a truly cooperative and aligned system of care, but support a substantial body of stakeholders that can drive North Carolina to the needed HIE tipping point. A wide variety of stakeholders may not be direct recipients of ARRA funding, yet they contribute a vast amount of effort and funding so that the state can achieve higher levels of HIT use and will improve the exchange of health information.

Table 2 below lists the major North Carolina activity for which funding was provided through the ARRA legislation, totaling over $200 million.

Grant Funding Opportunity	Grant Lead Agency	Amount of Grant
State HIE Cooperative Agreement	NC HIE	$12.9 Million, $1.7 Million, Supplemental Challenge Grant
Medicaid MU Planning	DMA	$2.29 Million
Medicaid EHR Incentive Program Administration and incentive payments	DMA	$104.2 Million
North Carolina Area Health Education Centers (AHEC)'s Regional Extension Center (REC)	NC AHEC Program at the University of North Carolina at Chapel Hill (UNC-CH), with assistance from the Carolinas Center for Medical Excellence (CCME), the North Carolina Medical Society (NCMS), and Community Care of North Carolina (CCNC)	$13.6 million
HIT Workforce Community College Consortia Program (non-degree programs)	Pitt Community College	$21 million

Grant Funding Opportunity	Grant Lead Agency	Amount of Grant
Health IT Curriculum Development	Duke University Center for Health Informatics (DCHI)	$1.8 million
University-Based Training Program (UBT)	Duke University Medical Center and University of North Carolina	$2.1 million
Broadband – BTOP Round 1	MCNC and North Carolina Research and Education Network (NCREN)	$28.2 million
Broadband – BTOP Round 2	MCNC, City of Charlotte, Olive Hill Community Economic Development, WinstonNet, and Yadkin Valley Telephone Membership Corporation	$115 million
Comparative Effectiveness Research: Mental Health Data Integration Project	N3CN, UNC Sheps Center, and DHHS	$991,332

Table 2 - ARRA Funding in North Carolina

A.5.1 State HIE Cooperative Agreement

The State HIE Cooperative Agreement, originally awarded to the NC Health and Wellness Trust Fund Commission, was transferred to a 501(c)(3) organization on December 1, 2010. The 501(c)(3) was more commonly referred to as the NC Health Information Exchange (NC HIE). The NC HIE has since gone through two governance transitions; most recently, on February 29, 2016, the NC HIE was transferred from the Community Care of North Carolina (CCNC) / North Carolina Community Care Networks (N3CN) structure to a new state agency, the North Carolina Health Information Exchange Authority (NC HIEA). More information on the NC HIEA's new HIE guidelines, services, and stakeholder agreements can be found in *Section A.6 Health Information Exchange* and *Section B.2 Advancing the Objectives of HIE*.

A.5.2 NC Area Health Education Centers (Regional Extension Center): Practice Support

The NC AHEC Program at the University of North Carolina at Chapel Hill (UNC-CH) was awarded a grant on February 8, 2010 to perform the function of the NC Regional Extension Center (REC). Since this time, the NCAHEC Practice Support program has continued to provide provider-centric services to enable transformed healthcare service delivery and patient centered care through Health Information Technology (HIT) in NC. Although funding for the program's HIT initiatives transitioned from the ONC HITECH funding on February 6, 2015 to the NC IAPD, the scope and intensity of provider engagement in the EHR Incentive Program and Health Information Exchange (HIE) remained constant. The NC AHEC program has continued to build capacity in coaching practices through transformation to prepare for new pay for value payment models and stands ready to quickly disseminate technical assistance to It's base of 1,319 primary care and subspecialty practices.

On the national front, NC AHEC is currently working through an (AHRQ) R18 grant to support the use of data in enabling practice's to improve cardiovascular health as well as being selected by CMS as a delivery mechanism for

the Quality Payment Program Small Underserved and Rural Support (QPP-SURS) technical assistance program. The NC AHEC Program has worked with the Carolinas Center for Medical Excellence (CCME), Alliant Health, the North Carolina Medical Society Foundation (NCMSF), the North Carolina Academy of Family Physicians (NCAFP), Community Care of North Carolina (CCNC), and the NC Institute for Public Health (IPH) to strengthen the quality and reach of services while minimizing duplication of efforts.

Table 3 below displays the number of practices and providers enrolled in each of the nine AHEC regions across the state as of June 2017.

NC AHEC Practice Support		
Region	Practices	Providers
Area L	54	212
Charlotte	125	311
Eastern	254	928
Greensboro	175	720
Mountain	143	578
Northwest	172	451
South East	171	357
Southern Regional	74	163
Wake	151	471
Total for NC:	**1319**	**4191**

Table 3 - NC AHEC's Enrolled Practices/Providers

A.5.2.1 NC REC Technical Assistance Team

Via the statewide infrastructure of their nine regional AHECs, the NC AHEC REC had enrolled over 5,271 primary care and sub-specialty providers for assistance in meeting the requirements of the Medicare and Medicaid EHR incentive programs.

The NC AHEC REC staff provided direct, onsite and local support to primary care and specialty practices in their region. This support included: assessing the practice; assisting in the selection of the most appropriate EHR system; guidance on system implementation; guidance on security and risk assessments; and guidance on system optimization through meeting MU and CMS's Quality Payment Program MIPS program requirements.

The measurement of effectiveness and reach of the NC AHEC HIT efforts are included in the following program deliverables:

1. Number of providers to date who have received assistance with working towards Meaningful Use
2. Number of providers participating with the NC AHEC REC who have successfully attested and/or achieved meaningful use

3. Number of providers participating with NC AHEC REC who have successfully attested and/or achieved Stage 2 of Meaningful Use

Figure 2 below displays NC AHEC's current status, as of June 2017 for program deliverables.

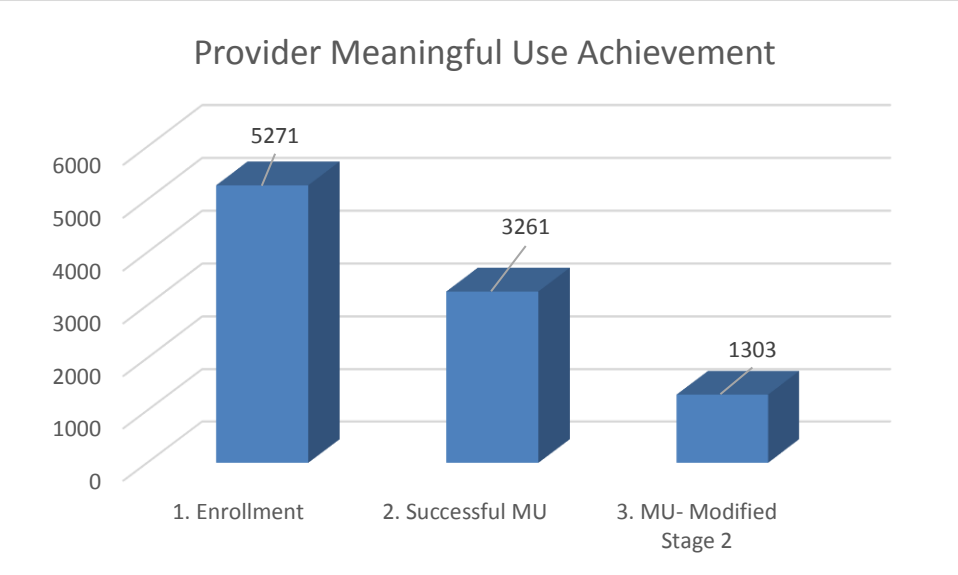


Figure 2 - NC AHEC's Progress Toward program deliverables – 2017

NC AHEC will also conduct a 12-month data analytics pilot to engage practices in optimizing the data reporting components of the MU and MIPS programs. Several practices from each region will be encouraged to use their meaningful use and utilization reports to identify areas for further improvement. The data provided by CMS and from a practice's EHR and PM system is hard to interpret and make actionable. The purpose of this pilot is to analyze that data to make it understandable so the practice can use the information to improve cost and quality.

A.5.3 Southern Piedmont Community Care Plan

Community Care of the Southern Piedmont (CCofSP) is one of 14 independent networks of CCNC. CCofSP was one of only 17 organizations nationwide selected to be a Beacon Community after a rigorous and competitive grant application and selection process. The Beacon Community Cooperative Agreement Program provided communities with funding to build and strengthen their HIT infrastructure and exchange capabilities. These communities of healthcare providers demonstrate the vision of a future where hospitals, clinicians, and patients are meaningful users of health IT, and together, help the community achieve measurable improvements in healthcare quality, safety, efficiency, and population health.

The Southern Piedmont Beacon Community (SPBC) was engaged in building and strengthening local HIT infrastructure, testing innovative approaches, and making measurable improvements, leading to better health and better care at lower cost. In addition, Beacon collaborated with the local and state AHEC RECs to assist EPs and EHs meet MU and attest for a Medicaid or Medicare EHR incentive payment.

The SPBC was comprised of three medical centers, two health departments and one health alliance in a three-county area consisting of Cabarrus, Rowan, and Stanly, located in the western Piedmont region of North Carolina. The projects the Health System and Health Department/Alliances are engaged in were designed to lead to:

- Increased health information exchange between providers, hospitals, and other appropriate stakeholders;
- Decreased inappropriate emergency department (ED) utilization;
- Decreased preventable hospital readmissions;
- Improved chronic care disease management for those with congestive heart failure, diabetes and chronic obstructive pulmonary disease; and,
- Improved public health.

Health Systems

The following is an overview of the Beacon funded projects in three health systems in North Carolina:

Carolina Medical Center-Northeast - The projects being implemented at Carolina Medical Center-Northeast are: the IC Data Connection and Continuity of Care document (CCD); transitional care, focusing on readmissions and care coordination; virtual home visits with remote monitoring; patient safety net; and a COPD pilot.

Rowan Regional Medical Center - The projects being implemented at Rowan Regional Medical Center are: the IC Data Connection and the CCD; the formation of a Transitional Care Department, which focuses on readmissions, care coordination, and medication optimization; an Emergency Room Behavioral Health Program; a Diabetes Navigator; a CHF inpatient program and outpatient clinic; bedside availability of computers; and Red/Louise.

Stanly Regional Medical Center - The projects being implemented at Stanley Regional Medical Center are: the IC Data Connection and the CCD; and Transitional Care, including a Transitional Care Clinic.

Each health system has implemented the Patient Activation Measure (PAM)® Tool. The (PAM)® survey assesses the knowledge, skills and confidence integral to managing one's own health and healthcare. With the ability to measure activation and uncover related insights into consumer self-management competencies, care support and education can be more effectively tailored to help individuals become more engaged and successfully manage their own health. **Figure 3** below describes the (PAM)® Model's activation levels.

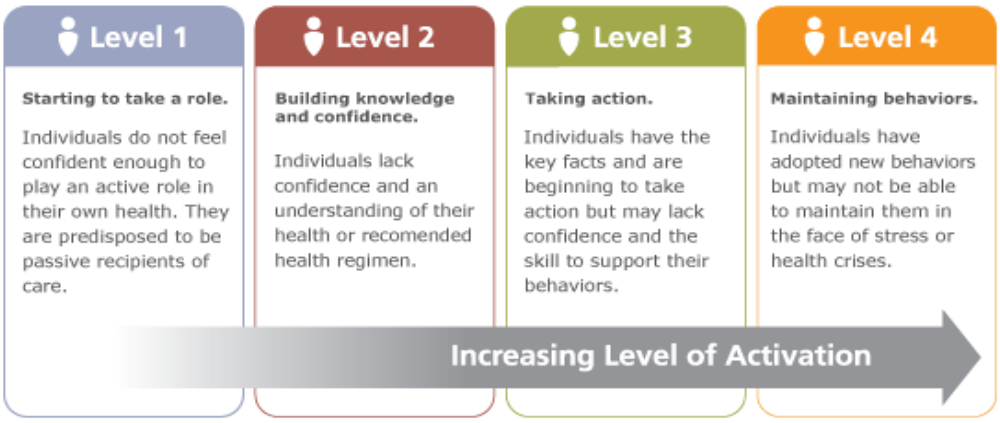


Figure 3 - Levels of Activation in the (PAM)® Model

PAM evaluates the competencies that drive health behavior by measuring an individual's self-management competency and one's sense of being in charge of his or her health.

Through these projects, Beacon has been engaged in the process of:

- Collecting, compiling and reporting the data monthly;

- Collecting observational/anecdotal findings from the Care Managers;
- Remaining interested in subsequent tool administration results:
  - Will scores simply improve with increased exposure to a care manager?;
  - Will scores improve with intentioned coaching activities and motivational interviewing techniques?; and,
- Demonstrating success and spread beyond Beacon by time and geography.

Pharmacy Support

Beacon funded full-time and part-time pharmacists to provide pharmacy reviews. There have been 1,313 adherence gap interventions made on 850 patients, and 69 patients have received a comprehensive medication review. A behavioral health pharmacist provided medication management to support Beacon initiatives. The pharmacist(s) in each county worked with patients on transition of care initiatives, adherence issues, the TREO report via physician referral, and case management referrals. They also identified and made interventions on patients who did not consistently fill their prescription medications.

Health Departments

Rowan County Health Department – Rowan County Health Department HIT projects included upgrading their electronic medical record (EMR) to be compliant with ONC certification standards, scanning and archiving their paper records and implementing electronic signatures, e-prescribing, and additional modules to their EMR.

Stanly County Health Department – Stanley County Health Department projects included implementing an EMR and rolling out individual modules.

Cabarrus Health Alliance (CHA) - Before Beacon, CHA had implemented an EMR. Their focus has been on adding additional modules to their system. CHA has completed the pharmacy and e-prescribing modules, and all providers are e-prescribing. Other projects included rolling out additional modules to their EMR and engaging with the Daily Disease Reporting (DDR). The DDR is a public health surveillance tool that relies on school nurses to capture symptom data for children in Cabarrus County schools. By 5 p.m. each evening, a list of the top 10 reported health concerns is compiled into a community-wide report that tracks disease incidence across all schools. This report is available to public health departments, providers, and schools.

In addition to the individual projects at both Rowan and Stanly County Health Departments and the Cabarrus Health Alliance, they have implemented, or will soon be implementing, the following projects: Automated Health Educator, “Anna,” and the NC- Health Information Portal. “Anna” is an automated health educator who will educate clients in Women and Infant Children and family planning. NC-HIP is designed to graphically geo-locate information from health and demographic databases to help identify trends and aid in the targeting and development of interventions to prevent chronic diseases.

Centralized Projects and Organizations

The N3CN IC - Beacon funding and resources are being leveraged to build the “pipes” necessary to have data flow between hospitals, providers, and health departments. Test servers are operational and Admission, Discharge, Transfer (ADT) data has been successfully passed into the IC’s Interface Engine. Beacon funding has also upgraded the Case Management Information System (CMIS); the CMIS version of transition of care has been recently released. They are now implementing new rules using clinical data, including diabetes related screenings. Alerts from these rules will be available in addition to the existing claims-based rules. Development has started for the CMIS companion tablet application. Lab data from LabCorp and Solstas are complete.

For additional insight and information on the Southern Piedmont Beacon Community, please visit the following website http://www.ccofsp.com/programs-initiatives/beacon-community/.

A.5.4 Pitt Community College

In March 2010, Pitt Community College was named one of five institutions across the country to lead a regional consortium of community colleges to train thousands of new HIT professionals. The Pitt Community College-led consortium received a $21.1 million cooperative agreement from the U.S. Department of Health and Human Services (HHS) for this project.

Funding for the Region D of the Health Information Technology for Economic and Clinical Health (HITECH) Act Workforce Training Program ended September 30, 2013.

Pitt Community College morphed the Workforce Training Program into a Health Information Technology training program with curriculum that provides individuals with the knowledge and skills to process, analyze, abstract, compile, maintain, manage, and report health information. As of 2017, the HIT program is offered totally online with the exception of two science courses and professional practice, which are made available in the student's region through a joint effort facilitated by the student and the HIT faculty.

A.5.5 Duke University Center for Health Informatics

Curriculum Development Centers Program

The Duke University Center for Health Informatics (DCHI), in conjunction with its community college partners, Durham Technical, Rowan Cabarrus, and Pitt Community Colleges participated in the Curriculum Development Centers Program funded by the Office of the National Coordinator: The five Curriculum Development Centers (Oregon Health & Science University, University of Alabama at Birmingham, Johns Hopkins University, Columbia University, and DCHI) and their partners developed 20 components which have been used throughout the United States and the world for training the following roles:

- Practice Workflow and Information Management Redesign Specialist
- Clinician/Practitioner Consultant
- Implementation Support Specialist/Manager
- Technical/Software Support Staff
- Trainer

This ARRA-funded project has been completed.

University-based Training Program

Duke University and UNC-CH partnered in the development of programs to train professionals for vital, highly specialized roles in HIT in educational programs lasting nine to 24 months. A total of 116 students received support to complete one of education programs eligible for funding. The programs at Duke led to a Masters of Management in Clinical Informatics, a post-masters certificate, or a Masters of Nursing with a Health Informatics major. The focus of the training at UNC-CH was in the Department of Public Health and the Department of Information and Library Science.

This ARRA-funded project has been completed.

A.5.6 MCNC (formerly Microelectronics Center of North Carolina)

MCNC is a broadband non-profit organization that owns and operates the North Carolina Research and Education Network (NCREN).

NCREN is North Carolina's premier community anchor network and one of the largest statewide fiber networks of its kind in the United States. This 2,700-mile fiber network touches virtually every county and traverses the perimeter of the state to touch a significant number of rural areas. Its more than 500 endpoints help to deliver broadband connections to millions of students and educators, world-renowned research facilities, government and public safety agencies, non-profit health care sites and other community anchor institutions (CAIs) throughout North Carolina.

Through NCREN, MCNC provides broadband services to the following:

- 17 UNC System Institutions
- 24 private colleges and universities
- 58 Community Colleges
- 115 LEAs
- 128 Charter Schools
- 23 North Carolina State Highway Patrol & Public Safety Locations
- 248 Hospitals/Clinics/Facilities

MCNC's key partnerships and contracts include:

- The University of North Carolina General Administration
    - Network and Video Connectivity to all 17 UNC System Institutions
- North Carolina Department of Information Technology and Department of Public Instruction
    - Network Connectivity and web content filtering to all 115 Public School Districts, 128 Charter Schools (and growing)
- State of North Carolina Community College System
    - Network and Video Connectivity to all 58 Community Colleges
- Cabarrus Health Alliance
    - Opt-In Health Care Connect Fund currently serving 248 health care facilities statewide
- North Carolina State Highway Patrol & Public Safety
    - 15 "Command" Centers statewide

The advanced networking technologies and systems MCNC employs enable connected CAIs to communicate with their constituents more effectively to meet their specific organization's mission, vision, and goals.

Consequently, NCREN provides a strong foundation for improving the delivery of health care to citizens by supporting the North Carolina Telehealth Network (NCTN).

The NCTN supplies the critical broadband infrastructure health care providers need to ably deliver services. This dedicated network for public and non-profit health care providers leverages the architectures of NCREN and the N.C. Department of Information Technology (NC DIT) to utilize leading-edge broadband technologies and network services that scale to connect customer locations to a resilient fiber backbone.
Key NCTN applications include Health Information Exchanges, Electronic Health Records (especially for remote hosting / SaaS models through an Application Service Provider), tele-education, and videoconferencing. Telehealth applications include but are not limited to live medical imaging, echocardiograms, telepsychiatry, orthopedics, intensive care monitoring, CT scans, and storage and forwarding capabilities for MRI radiographs.

To help the state's medical professionals in the non-profit health care arena better serve their constituents through a digital experience with the use of broadband technologies, MCNC provides a fully managed suite of

network services including 24x7x365 customer support. In collaboration with the NC DIT and other private telecom carriers, these services meet or exceed the requirements of the NCTN and help enable MCNC to play a key role in supporting North Carolina's health care broadband technologies transformation.

MCNC is also well positioned to provide infrastructure services to North Carolina's public safety community. MCNC's collaborative and transparent approach uniquely situate MCNC to both provide infrastructure and to initiate and participate in diverse conversations and innovations that will be necessary to successfully implement an efficient, powerful, and secure public safety network across the state.

With the expanding use of advanced technology for the delivery of health care and public safety, MCNC recognizes privacy and cyber threats are significant in these areas and must be addressed proactively. To that end, MCNC is developing a security portfolio that better protects customers from the damaging effects of cyber-attacks. The enhanced capabilities will offer more customer protections to help manage security risks.

MCNC has purposefully built a number of internal solutions to strengthen the organization's overall security posture. Through a formalized risk management program, these efforts will strengthen vulnerability management with stronger authentication, end-point protection, security monitoring, data encryption, security awareness, and education.

In May 2017, MCNC successfully completed a Service Organization Controls (SOC) 2 Type II examination of MCNC's Data Center. Accountancy firm Assure Professional performed the rigorous audit of MCNC's organizational security controls and processes. The SOC 2 Type II standard not only defines what controls should be in place, but also verifies that MCNC is appropriately managing security risks and is a trusted partner serious about data protection and effective operations.

As modern health care depends more and more on robust, high-speed broadband connectivity for better access to diagnose, care, and research the next discovery of cures, MCNC will continue to offer solutions and enhancements that benefit the needs of the health care community and enrich all of the community it serves for years to come.

Corporate Background

Created by then Gov. James B. Hunt, Jr. and the N.C. General Assembly in 1980, MCNC is a private non-profit that builds, owns, and operates the North Carolina Research and Education Network (NCREN). NCREN is the broadband infrastructure that serves the bandwidth and network services needs of community anchor institutions throughout North Carolina.

For more than 30 years, a growing number of research, education, non-profit health care, and other community institutions have connected to NCREN to utilize this leading-edge broadband highway. Today, NCREN serves the broadband infrastructure needs of more than 500 of these institutions including all K-20 public education in North Carolina. The expansion of NCREN and its capabilities now allows MCNC to customize network services and applications for each of these connectors in unprecedented fashion as MCNC looks to further enable private-sector providers to bring cost-effective broadband infrastructure to rural and underserved areas of North Carolina. MCNC's business and partnering strategy gives North Carolina a competitive advantage in economic development and is driving the new interconnected economy in North Carolina.

In 2010, MCNC applied for and successfully received two federal Broadband Technology Opportunities Program (BTOP) awards. These awards totaled $104 million, and when combined with $40 million of privately-raised matching funds, it represents a $144 million investment in broadband infrastructure in North Carolina collectively called the Golden LEAF Rural Broadband Initiative, completed in 2013.

A.5.7 Mental Health Data Integration Project

North Carolina received more than $100 million in Comparative Effectiveness Research funding through our nationally recognized medical centers: Duke University Health Systems, Vident Health, University of North Carolina Health Systems, and Wake Forest University Health Sciences. The two-year collaborative Mental Health Data Integration Project between N3CN, the University of North Carolina Cecil G. Sheps Center for Health Services Research, and three divisions under the NC DHHS: DMA, Division of State Operated Healthcare Facilities, and the MH/DD/SAS consisted of three aims, which simultaneously advanced NC's commitment to enhancing the knowledge base for care of complex patients with mental and physical comorbidities:

1. Creation of an integrated database to enhance infrastructure for comparative effectiveness research is complete for Mental Health Data Integration and includes claims data from four sources: Medicaid, Piedmont Behavioral Health, Integrated Payment and Reporting System, and Healthcare Enterprise Accounts Receivable Tracking System. Categories of data included are mental health, developmental disabilities, and substance abuse.
2. Completion of a primary study, *The Use of Medical Home by Patients with Complex Mental Health and Medical Comorbidities* to demonstrate the usability of the integrated database. This project is complete and was carried out by CCNC and UNC-CH. The data analysis is ongoing; the study aims include:
    a) To examine whether complex patients with mental illness engage in medical homes as readily as complex patients without mental illness;
    b) To examine whether persons with mental illness use their medical homes as their mental health homes;
    c) To estimate the effect of engagement in medical homes on the quality of care for mental illness and for medical comorbidities; and,
    d) To examine the rate of engagement with medical home providers after psychiatric inpatient discharge.
3. Development of a structure for making the database available to the research community to support comparative effectiveness research, and to DHHS to support patient care, quality improvement, and care coordination across settings of care. A charter has been developed for the NCIDR Research Oversight Committee as well as a research request form. Currently, DHHS is in the process of identifying a research oversight committee chair and members and is accepting research request forms from interested parties.

DSOHF continues to implement VistA at Central Regional Hospital.

Four major VistA Production Milestones have been met:

- Central Region VistA Pharmacy Formulary is complete.
- All updates planned for Central Region VistA from the WorldVistA Community have been applied in the Production Environment.
- The VistA tests and panels for Coagulation, Chemistry, Serology, and Urinalysis are 100 percent complete.
- Patient census in VistA is now performed for both CRH and Whitaker patients.

A.5.8 NC Institute of Medicine

The North Carolina Institute of Medicine (NCIOM) is an independent, quasi-state agency that was chartered by the North Carolina General Assembly in 1983 to provide balanced, nonpartisan information on issues of relevance to the health of North Carolina's population.

The NCIOM convenes task forces, or working groups, of knowledgeable and interested individuals to study complex health issues facing the state in order to develop workable solutions to address these issues

The NCIOM Task Force on Health Care Analytics has been convened at the request of the Division of Health Benefits (DHB) at the NC Department of Health and Human Services. The Task Force will define and prioritize specific quality improvement measures of health and health care to be used by DHB to drive improvement in population health in North Carolina. The measures will encompass physical and behavioral health/ IDD, and will consider public health and social determinants.

The measures will be organized according to the quadruple aim and will utilize standardized measurement data, be readily definable and outcomes based, and leverage existing federal and state measures where practical. The task force will build on the previous work performed by the NC Division of Medical Assistance (DMA), NC Division of MH/DD/SAS, and others to define and prioritize the measures. It is anticipated that the measures will evolve based on experience and published evidence and will need to be reviewed and updated on a regular basis.

The task force will consider measures across a broad continuum of care including but not limited to public health, mental health/IDD, pediatrics, whole person health (integration of mental and physical), pediatrics, oral health, infants, rural needs, key high cost high risk subpopulations, mothers and children, the chronically ill and people with disabilities, foster children, and areas of health disparities. Using the quadruple aim as a framework, the task force will identify the services applicable to each aim and identify, define and prioritize a set of recommended measures across the service areas.

The task force will meet monthly December 2016 through May 2017.

A.5.9 Non-ARRA Funding – The North Carolina Children's Health Insurance Program Reauthorization Act Grant

In February 2010, CMS awarded 10 grants to states to establish and evaluate a national quality system for children's healthcare, which encompasses care provided through the Medicaid program and the Children's Health Insurance Program (CHIP). This grant was funded by the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA). The demonstration grant program ran through 2015.

North Carolina, via DMA and the Office of Rural Health and Community Care (ORHCC), was awarded 9.2 million dollars to work on three of the five categories of the CHIPRA Quality Demonstration Grant; A, C and D. North Carolina worked with pediatric and family practices within CCNC to build on a strong public-private partnership that has documented successes in quality improvement, efficiency and cost-effectiveness of care for more than 14 years.

A.5.10 Office of Rural Health (ORH)

ORH works with communities to increase access to low cost, high quality health care. Since its inception in 1973, ORH has opened 86 community-owned, non-profit Rural Health Centers (RHC) across the state. As of May 2017, ORH supports 14 RHCs and more than 149 other non-profit primary care safety-net organizations with funding

and technical assistance. ORH also helps to place medical, psychiatric, and dental providers in communities throughout the state. State and federal funding, along with technical assistance, enable communities to provide services to uninsured North Carolinians and agricultural workers. Thirty-three rural hospitals also receive funding to encourage the development of innovative approaches to improve care at a lower cost. Additionally, qualifying patients may take advantage of drug companies' free and low-cost drug programs through ORH's statewide medication assistance program.

Over the past decade, North Carolina has become a national leader in connectivity of the safety net. ORH has led several initiatives related to EHR adoption and HIE connectivity and initiated a number of funding opportunities which supported these efforts:

- In February 2016, ORH hosted a statewide "Rural Health Summit" to connect 260 non-profit medical providers, including critical access hospitals, rural hospitals, RHCs, public health departments, and free and charitable clinics, with the financial assistance programs and resources of the DHHS Office of the National Coordinator (ONC) for Health IT, HRSA's Office of Rural Health Policy, the US Department of Agriculture (USDA), the Federal Communications Commission (FCC), the Appalachian Regional Commission (ARC), and a variety of public and private organizations that support rural health infrastructure needs, particularly around the statewide HIE network and telehealth. ORH is exploring opportunities for a second summit to continue the work of supporting safety net providers' access and use of EHR systems and connectivity to the HIE.
- The provision of cost-efficient health care is increasingly tied to the ability to share timely information among health care providers. In 2015, the NC General Assembly (NC GA) decided to change the direction of the current NC HIE and directed the NC Department of Information Technology to establish a new HIE network that would be operated by a new state agency called the NC Health Information Exchange Authority (NC HIEA). To access and submit data to the HIE, health care providers must enter into a new contractual agreement with the NC HIEA. The NC GA provided an appropriation of state funds for the HIE totaling $8 million recurring and $4 million non-recurring in both SFY 2015-16 and SFY 2016-17. NC Session Law 2017-57 requires hospitals, physicians, physician assistants, and nurse practioners that have an EHR system and rendered services paid for with Medicaid or other State-funded health care funds be connected to the HIE and begin submitting demographic and clinical data by June 1, 2018. All other providers of Medicaid and State-funded health care services must submit demographic and clinical data by June 1, 2019. To maintain access to appropriate, cost-effective care and continue eligibility for state funding, it is critical that safety net providers establish contracts with the NC HIEA and connect to the HIE. Connecting to the HIE will also allow many safety net providers to qualify for the incentives offered through CMS' EHR Incentive Programs. DMA and ORH are working together with the NC HIEA to connect NC's safety net providers to the NC HIE. Increasingly, these efforts are focused on health care providers seeking to connect for the first time.
- ORH assists underserved rural communities to provide accessible primary medical services for all persons regardless of their ability to pay. To receive financial support, these Rural Health Centers (RHC) must participate in the Medical Access Plan to provide health coverage to low-income (less than 200 percent of poverty), uninsured residents. Upon request, ORH provides technical assistance to RHCs related to financial and operational areas, including IT systems.
- ORH's Community Health Grants improve access to health care services for NC's vulnerable (Medicare, Medicaid, underinsured and uninsured) residents through a Request for Application process, wherein non-profit primary care safety-net organizations such as Rural Health Centers, Community Health Centers, local non-profit health centers, free clinics, public health departments, and school-based health centers may apply for funding.

- The Blue Cross Blue Shield of NC Foundation has provided funds to the North Carolina Community Health Center Association (NCCHCA) to develop UDS reports that HRSA requires of CHCs. Through this funding, NCCHCA has worked closely with CCNC to develop UDS reporting capabilities. ORH and its partners intend to leverage the reports that were developed with CCNC for community health centers for the remainder of the safety net system. In anticipation of this future reporting functionality through CCNC, ORH began in 2015 to align, to the extent possible, performance measures for quality of care required of its grantees providing primary care services with these UDS reporting standards.
- Since 2014, ORH has one dedicated full-time employee that provides technical assistance for telemedicine and telepsychiatry programs being developed across the state.
- In 2013, ORH initiated a pilot program with one full-time employee dedicated to helping FQHCs and RHCs meet the initial stages of Meaningful Use.
- In 2012, ORH designated Community Health Grant funds to help primary care safety net organizations to connect to the NC HIE. Five contracts, totaling $750,000 were awarded as follows:
  - NC Association of Free Clinics $162,500 (for connecting 9 free clinics)
  - NC School Community Health Alliance $162,500 (for connecting 6 school based/linked health centers)
  - NC Community Health Center Association $162,500 (for connecting 6 CHCs/ FQHCs)
  - NC Association of Local Health Directors $100,000 (for customizing certified EHR system to enable connectivity to HIE; connecting 2 local health departments)
  - NC Foundation for Health Leadership and Innovation (formerly the NC Foundation for Advanced Health Programs) $162,500 (connecting 7 Rural Health Centers)

ORH is working to identify additional, ongoing funding to support assistance for primary care safety net providers with obtaining hardware and software for connectivity to the NC HIE, maintenance fees for continuing connectivity, electronic health records, and data normalization for standard reports. The next stages of connectivity may be more challenging, as the level of data normalization and collection become more sophisticated.

- Also in 2012, ORH committed matching funds for a USDA Rural Utility Service grant for telemedicine in Hyde County, NC, through the Ocracoke Health Center. This project connects clinics in Ocracoke, Engelhard, and the Hyde County Health Department with specialty care, including behavioral health. The project developed relationships with Albemarle Hospital in Elizabeth City, NC, Brody School of Medicine in Greenville, NC, and with MCNC in Durham NC. MCNC and the NC Telehealth Network (NCTN) have provided technology advice and broadband connectivity for this project, including ongoing support for accessing the Federal Communications Commission's Healthcare Connect Fund. ORH, MCNC, and the NCTN continue to work collaboratively to connect safety net providers such as the Ocracoke Health Center to the Healthcare Connect Fund and other Health IT resources, through advisory groups, outreach, and coordinated trainings.
- In 2011, ORH requested a Change in Scope to its HRSA-funded State Health Access Program (SHAP) demonstration grant to utilize approximately $2.8 million in unobligated SHAP funds to undertake a number of unfunded projects around current efforts to increase access to coverage for the uninsured and help prepare the state for implementing various provisions of the Affordable Care Act (ACA). These included initiating a demonstration in two rural communities for developing an interface between an EHR and the Case Management Information System (CMIS) and Medication Access Review Program (MARP) System used by safety net providers statewide.
- Through CCNC, ORH has worked collaboratively with DMA for more than a decade to fund innovative strategies to test and evaluate the use of new and existing quality measures for Medicaid patients. CCNC

organizes regional health networks that are operated by community physicians, hospitals, health departments, and departments of social services and manages the local systems needed to achieve long-term quality, cost, access, and utilization objectives in the care management of Medicaid recipients.

ORH HIT-related Funding

In addition to funds approved through the FFY 2017-2018 IAPD, as of June 2017, ORH also receives funding for a health IT program called N.C. Statewide Telepsychiatry Program (NC-STeP). NC-STeP is funded through state appropriations and the Duke Endowment and was developed in response to Session Law 2013-360 directing NCDHHS and ORH to "oversee and monitor establishment and administration of a statewide telepsychiatry program." NC-STeP allows referring hospital sites to utilize real-time interactive audio and video technology, telepsychiatry, for psychiatrists to provide timely psychiatric assessment and rapid initiation of treatment for patients experiencing an acute mental health or substance abuse crisis. The vision of NC-STeP is to assure that if an individual experiencing an acute behavioral health crisis enters an emergency department of a hospital anywhere in the state of North Carolina, s/he receives timely specialized psychiatric treatment through this program.

A.5.11 Other Stakeholder Activities

Academic medical centers, such as Duke University Health System, Vident Health, University of North Carolina Health System, Wake Forest University Health Sciences, and other major hospital systems such as Carolinas Healthcare System, Mission Health Systems, Moses H. Cone Memorial Hospital, and Wake Med Health have invested in improving the capabilities of their integrated delivery networks (IDNs). They have created or are enhancing the medical coordination and quality monitoring functionality of their IDN systems' environments. This includes more data sharing, integration and communications capabilities of the main hospital systems with EHR capabilities of affiliated and non-affiliated medical practices within their respective medical trading areas. In many cases this communication uses a peer-to-peer communication methodology.

A.5.11.2 North Carolina Hospital Association

Public Health Syndromic Surveillance

The North Carolina Hospital Emergency Surveillance System (NCHESS) is a state-mandated program begun in 2004 as a public-private partnership between NCHA and the NC Division of Public Health. The mandate requires hospitals with 24/7 emergency departments (ED) to submit 23 data elements at least twice per day for syndromic surveillance purposes. The mandatory program is sometimes referred to as NCHESS-EDDI (Emergency Department Data Initiative) and there are currently 125 EDs participating in this portion of the program that account for approximately 4.7 million ED visits per year in North Carolina.

In addition to the mandatory NCHESS-EDDI program, NCHESS operates a voluntary program called NCHESS-IMC (Investigative Monitoring capability) that provides NCDPH epidemiologists with the capability for real-time surveillance of ED and inpatients for advanced public health surveillance. In addition to the 23 ED data elements, NCHESS-IMC also surveils ADT, vitals, labs, and microbiology data for inpatient, observation, and ED beds.
The NCHESS platform was upgraded to meet Meaningful Use Stage 2 requirements in 2015 for all NCHESS hospitals to enable real-time, whole-hospital surveillance for all hospital at no additional cost to the state. The primary benefits for participating in the NCHESS+ program for hospitals, NCDPH, and communities includes:

- Reduces burden on hospital staff during public health investigations by reducing call-backs and the need for chart abstractions and record review by hospital staff
- The only pathway for hospitals to meet the Meaningful Use Stage 2 Syndromic Surveillance objective
- Implementation of NCHESS+ at very little cost to hospitals, and no cost to the state

- More timely and effective public health intervention through early event detection and enhanced surveillance capabilities

The NCHESS+ system dramatically decreases the amount of time spent by hospital staff for each public health investigation, reducing hospital staff time from 30-60 minutes per episode to five minutes or less (and often no time at all). The NCHESS+ system also enables hospitals to voluntarily participate in several NCHA-sponsored initiatives that promote better and more efficient care, including the Medicaid ADT Initiative and the State Health Plan ADT Initiative. In both of these programs, a small amount of Admit-Discharge-Transfer (ADT) data for the appropriate plan is sent from the NCHESS+ platform and forwarded to the care managers of each plan to enhance their ability to manage their populations. These programs are strictly voluntary and have no participation or maintenance costs to participating hospitals and health systems. The NCHESS+ platform is currently being upgraded for Meaningful Use Stage 3 by the end of 2017.

PDS+ Readmission Readiness Initiative

NCHA established a statewide unique hospital patient identifier in 2013 that tracks patients across all hospitals. The purpose of this effort is to help hospitals link the quality of patient care with the financial risks hospitals face as part of emerging models of care based on shared savings rather than volume alone. We deliver quarterly reports of statewide, all-payor, all-case readmission data to hospitals through the PDS+ Readmission Readiness Initiative. The reports to hospitals include:

- Readmissions for Any Reason
- Readmissions for Any Reason - By Payer
- Readmissions for Any Reason - By Race
- Readmissions for Any Reason - By Sex
- Readmissions for Any Reason - Trend Report
- Readmissions for Same Clinical Classification
- Readmissions for Same Clinical Classification - By Payer
- Readmissions for Same Clinical Classification - By Race
- Readmissions for Same Clinical Classification - By Sex
- Readmissions for Same Clinical Classification - Trend Report
- Expected Readmissions by CMS Measure - Medicare Only
- Readmissions by CMS Measure - Medicare Only

Hospitals receive these data via a secure reporting website with the option to acquire enhanced reports and source data for use within their own analytic tools and methodologies.

Medicaid ADT Initiative

NCHA, the North Carolina Department of Health and Human Services, and North Carolina Community Care Networks continue a seven-year collaboration on the Medicaid Admission / Discharge Data Initiative to enhance the coordination of care for Medicaid beneficiaries. The initiative builds on existing care management efforts already underway between hospitals and local community care networks and utilizes technology already in place in hospitals. NCHA coordinates hospital data collection and twice-daily delivery electronic data for Medicaid patients to NCCCN's Informatics Center. The data is generated using technology already installed in hospital/system as part of the NCHESS+ program and there is no additional cost to hospitals to participate. Local Community Care agencies will be able to access the Medicaid patient data directly from the Informatics Center pursuant to network system access agreements they have in place with NCCCN.

State Health Plan ADT Initiative

The State Employee Health Plan (SHP) ADT Initiative was started in 2014 as a mutually beneficial partnership for hospitals, patients, and SHP that provides SHP with hospital inpatient and emergency department ADT data on a near real time basis using the NCHESS+ platform. The information is used by SHP's care coordination partner, NC HealthSmart, to work with SHP plan members and hospitals to reduce costly hospital readmissions and improve post-discharge medication management and follow up. The SHP ADT Initiative provides numerous benefits to hospitals and SHP, including:

- Prevents costly hospital readmissions, which will reduce member hospitals' liability for federal penalties under ACA.
- Provides opportunity to develop a model and standards for working directly with a large employer without insurer involvement.
- Positions hospitals for the transformation from volume to value.

SHP provides health care coverage to more than 678,000 plan members. Through healthy living initiatives, including NC HealthSmart, the Plan seeks to empower members to become partners in addressing their health care needs.

Hospital Data and Health IT Collaboration

NCHA collaborates on additional hospital data- and health IT-related projects with a wide range of stakeholders every year. The point of these collaborations is to enable efficient use of existing technologies and develop new opportunities to improve the quality of patient care and lower the overall cost of care. By combining consumer and social determinate data with existing claims and clinical data, we are able to enhance predictive analytics and risk adjustment capabilities for work on pressing issues such as cancer research, opioid crisis management, behavioral health and substance abuse care coordination, enhanced motor vehicle crash reporting improvements, trauma registry, and controlled substance reporting.

A.5.11.3 North Carolina Healthcare Information and Communications Alliance, Inc.

The North Carolina Healthcare Information and Communications Alliance, Inc. (NCHICA) was established by Executive Order #54 of the Governor of the State of North Carolina in 1994. A 501(c)(3) nonprofit corporation, NCHICA's mission is to accelerate the transformation of the US healthcare system through the effective use of information technology, informatics, and analytics.

NCHICA is the premiere consortium in North Carolina that champions the adoption of information technology and enabling policies to improve healthcare. NCHICA's membership, composed of more than 300 organizations -- including government agencies, healthcare providers, payers, professional associations, and health IT partners -- has demonstrated the value of collaboration in achieving its mission for the past 23 years.

NCHICA, in collaboration with its members, supports national health IT goals through active engagement in the following initiatives: informing clinicians and other healthcare stakeholders about the benefits of electronic health information; developing consensus-based processes and procedures for seamless and secure health information exchange while ensuring privacy protections; and leveraging IT to improve the health of the population.

Working closely with its members, NCHICA operates in many venues as a convener, promoter, educator, catalyst and innovator. NCHICA hosts educational sessions, including the NCHICA Annual Conference and the Academic

Medical Center Conference on Security and Privacy, and fosters collaborative efforts through workgroups that supports the implementation of standards-based IT in healthcare.

NCHICA has numerous committees and workgroups that bring together key players and decision makers from among its members to tackle complex issues around implementation of HIT and HIE. Key NCHICA committees and workgroups include:

- CIO-CMIO Roundtable: This group of hospital CIOs, CMOs, and CMIOs has met quarterly to discuss issues of concern since 2000. The NC Medicaid EHR Incentive Program, NC HIE, and NC DHHS Public Health present program updates at the quarterly CIO Roundtable meetings.

- Informatics and Analytics Roundtable: This group, started in 2011, supports the collection of patient data and use of analytics to improve clinician workflow and patient care. Data analytics to support population health management is a focus of this group.

- Technology and Integration Workgroup: This group, formed in 2012, discusses approaches for building standards-based interfaces to internal applications, as well as to external enterprises and health information exchanges. The group also focuses on innovative technologies that will improve healthcare delivery and enhance patient experience. NCHICA has been involved in the discussion of statewide health information exchange since 2004, and is an active collaborator and supporter of NC HealthConnex.

- Transactions, Code Sets, and Identifiers (TCI) Workgroup: This group began in 1997 to develop methods for complying with the HIPAA administrative transactions regulations and included the ICD-10 Task Force. The ICD-10 Task Force was active from 2005-2014, and attracted national attention for its planned limited pilot for end-to-end testing of the ICD-10 codes to ensure that there was no interruption in cash flow during transition in October 2014.
- Privacy and Security Officials Workgroup: This workgroup began in 1998 and has developed numerous sample documents and templates over the years to help organizations comply with the HIPAA and HITECH regulations. The group focuses on best practices for data security and compliance with HIPAA privacy regulations.
- Telehealth/Telemedicine: NCHICA spearheaded the discussion on telehealth in NC in 1995 and has since been actively involved in related planning activities with representatives of such leading health organizations as UNC Health Care, ECU, Duke Health, Wake Forest Health, NC DHHS and BCBSNC. In 2017, NCHICA partnered with the Mid-Atlantic Telehealth Resource Center to develop a statewide plan for telehealth adoption.

A.5.11.4 NC Emergency Medical Services

The North Carolina Office of Emergency Medical Services (NC OEMS) is the state regulatory agency for Emergency Medical Services. Emergency Medical Services functions at the local level through 100 county-based EMS systems and Cherokee Tribal EMS. These 101 EMS systems coordinate the service and care provided by the 430 EMS agencies and 40,000 EMS professionals functioning in NC. More than 1,900,000 EMS events occur in NC each year.

NC EMS regulations require an electronic patient care report to be completed on each EMS patient contact. This Pre-Hospital Medical Information System (PreMIS) is maintained through a contractual agreement by the EMS Performance Improvement Center (EMSPIC) at UNC-CH. EMS agencies are required by 10A NCAC 13P to complete an electronic patient care report and submit it into the PreMIS system within 24 hours of the event. EMS agencies

can meet this electronic data submission requirement by using the free PreMIS Web-based data entry tool or through a commercial EMS data system which has been certified as a National EMS Information System (NEMSIS) Gold-Compliant vendor. The PreMIS system is based on the National EMS Data System standard adopted by all 56 US states and territories.

The EMSPIC was established by the OEMS to provide technical support and assistance to EMS agencies and systems in the use of EMS data. The Duke Endowment funded the development of five EMS performance improvement toolkits based on the NC EMS Data Systems. The toolkits address key patient types or EMS events. The EMS toolkit topics include EMS response time, acute trauma care, acute cardiac care (ST-Elevation Myocardial Infarction (STEMI)), acute pediatric care, and cardiac arrest care. The CDC has also funded the development of an Acute Stroke Care toolkit. Since development, these toolkits have been revised into what is now called EMS STATS (Self-Tracking and Assessment of Targeted Statistics), and provide much more detailed information to not only the agencies and systems, but also to the field provider about their own performance when compared to others. In 2010, the NC OEMS and the EMSPIC focused on the linkage of EMS data with other existing NC data sources. The purpose of the linkage is to better describe, evaluate, plan, and improve the healthcare provided to the citizens of NC.

As of 2017, NC EMS Data System is currently exploring how EMS patient care reports could be provided to hospitals electronically, in an automated fashion, in exchange for more timely hospital outcome information. Partnership with NC Detect has allowed the NC OEMS to begin looking into EMS patient outcome data from some limited hospitals, to which NC OEMS hopes to expand in the future. The NC OEMS continues to maintain and enhance all data systems pertaining to medical record collection and regulatory data. This includes, but is not limited to, inspection reports and EMS certification records through the PreMIS, CIS, and State Medical Asset Resource Tracking Tool (SMARTT) applications.

As of May 2017, NCOEMS continues to maintain and enhance all data systems pertaining to medical record collection and regulatory data. This includes, but is not limited to, electronic Patient Care Records, inspection reports and Emergency Medical Services (EMS) certification records through the PreMIS, Credentialing Information System (CIS), and SMARTT applications. These applications are currently being updated and combined into a new portal, Continuum, which allows users to access all three programs from one program.

The NC OEMS has been active in the use of EMS prehospital data to assist with response to the opiate crisis currently in NC. Various other state agencies utilize EMS data to help track patients and locations where efforts must be strategically targeted to best combat this growing problem. In addition to the opioid items, expansion of Community Paramedic programs in NC has grown significantly across the state. These programs seek to provide patients alternative treatment options, linking the right patient, with the right care, at a lower overall cost to the healthcare system, all while maintaining the highest level of patient satisfaction.

A.5.11.5 State Chief Information Officer

Eric Boyette was appointed SCIO in April 2017 to manage the NC Department of Information Technology (NC DIT). The SCIO has two primary areas of responsibility for information technology within the state. The first area is the establishment of statewide policy and technical direction. The second is to oversee the delivery of technology services for state agencies and other subscribers.

As a policy leader, the SCIO has participated in the statewide meetings of the Health Technology Consortium and its predecessor, the Governor's Task Force on Health and Information Technology. The SCIO also provided staff to act as subject matter experts for both groups. The NC DIT remain engaged in the HIT planning and policy establishment processes for the state of North Carolina.

In addition to the policy role, the SCIO also has an operational role. The NC DIT provides both mainframe and server-based hosting for state agencies and local governments; operates two large data centers, one in Raleigh and one in Forest City, NC; and provides application development services and a statewide voice and data network.

Since 2016, OSC and DIT have had direct oversight over the new NC HIEA, creating opportunities for furthering synergies between statewide health information exchange and other state data systems, including NCTracks (the NC MMIS) and NC-MIPS.

A.6 Health Information Exchange

A.6.1 NC HIE/NC HealthConnex

Coordinated planning for statewide HIE in North Carolina began in early 2009, when the North Carolina HIT Strategic Planning Task Force (HIT Task Force) was established to forge a new vision of how health and healthcare can be improved by enhancing the use of health IT.

On behalf of Governor Bev Perdue, the Director of the Office of Economic Recovery and Investment (OERI) charged the HIT Task Force to engage stakeholders to develop a set of strategic guidelines by which North Carolina could apply for, and most effectively use, resources made available through ARRA. The HIT Task Force was composed of 17 members; however, more than 65 subject matter experts, staff, and members of the public were invited to participate in the seven open meetings that were held from April through June 2009.

At that time, North Carolina's state government examined the mechanisms and legal issues associated with assuring that the state retains appropriate oversight authority with respect to the statewide HIE. While essential to maintain the integrity of the multi-stakeholder collaborative process in setting policy for the statewide HIE, it is also the case that the state has a non-delegable role as the steward of State assets and the protector of the public interest that must be preserved. As a result, specific provisions in the NC HIE's original Articles of Incorporation and bylaws may not be altered, amended, or appealed without the governor's prior approval.

As noted above, the state of North Carolina has participated in the decision-making process around the statewide HIE network since its inception. Originally, with the NC HIE organization as an independent non-profit, former DHHS Secretary Lanier Cansler acted as Chair of the NC HIE Board. Additionally, the North Carolina State HIT Coordinator, SCIO, and North Carolina's Medicaid Director acted as ex-officio members of the NC HIE Board. From early 2013 until early 2016, under CCNC leadership, the NC HIE Board of Directors was dissolved and replaced by five members of CCNC's Board of Directors, who represented physicians, hospital organizations, pharmacy and long-term care -interests, and, by virtue of the CCNC organization, the interests of Medicaid and the state-insured population. Since early 2016, under the NC HIEA, state leaders from both health and human services and information technology agencies, as well as representatives of provider organizations, sit on the legislatively-appointed NC HIEA Advisory Board to provide input into the HIEA's direction and operations.

The state also plays a significant role in supporting the coordination of HIE efforts. In June 2010, Secretary Cansler established the North Carolina Office of Health Information Technology (OHIT). OHIT coordinates HIT efforts across state government and other key stakeholders across the state, and ensures consistency with federal policy and initiatives.

Finally, through its provision, payment, and monitoring of healthcare and population health, North Carolina state government collects and distributes a wide range of administrative and clinical health information. Accordingly, state agencies have worked with the statewide HIE, through its different governance structures, to develop cost-effective strategies to share resources and make their systems available through the statewide HIE network.

The series of milestones noted in the timeline below show the progress of HIE from 2009 to 2017, spanning organization of stakeholders and development of the initial strategic and operational plans, to the operational and growing HIE network of 2017.

June 24, 2009: The HIT Task Force released Improving Health and Healthcare in North Carolina by leveraging federal health IT stimulus funds that outlined recommendations around the critical components of a successful health IT infrastructure and operations for a statewide HIE.

July 16, 2009: Governor Perdue signed Executive Order 19, charging the North Carolina Health and Wellness Trust Fund (HWTF) Commission with the responsibility for coordinating North Carolina's HIT efforts and creating the North Carolina HIT Collaborative to make recommendations to the Commission regarding the development of the "NC HIE Action Plan."

September 11, 2009: HWTF submitted a Letter of Intent to seek Cooperative Agreement funds on behalf of North Carolina.

October 16, 2009: HWTF submitted Cooperative Agreement Application and "NC HIE Strategic Plan."

December 9, 2009: NC HIT Collaborative Privacy Workgroup released Briefing Paper: Developing a Statewide Consent Policy for Electronic HIE in North Carolina which addressed issues and making recommendations for next steps.

February 12, 2010: HWTF received Notice of Grant Award from ONC to fund HIE planning and implementation activities through 2014 and notification of approval of North Carolina State HIE Strategic Plan Version 1.

April 2010: A public-private partnership model to govern statewide HIE in North Carolina was recommended and approved; the NC HIE not-for-profit organization is incorporated.

May 14, 2010: The first board meeting of the new nonprofit, public-private partnership governance entity for NC HIE is held. The NC HIE Board of Directors is comprised of 21 CEO-level executives plus ex officio members from the state. The Board is co-chaired by NC DHHS Secretary Lanier Cansler and past CEO and Chairman of Glaxo, Inc., former CEO of Massachusetts General Hospital and healthcare advocate, Dr. Charlie Sanders.

Late May 2010: The NC HIE appointed multi-stakeholder Workgroups (Finance Workgroup, Legal and Policy Workgroup, Clinical and Technical Operations Workgroup, and Governance Workgroup) and drafts Workgroup Charters.

June 2010: NC HIE Workgroups began developing consensus-based recommendations to inform the Statewide HIE Operational Plan and to update the Statewide HIE Strategic Plan.

August 31, 2010: The NC HIE and HWTF submitted an updated Statewide HIE Strategic Plan and Operational Plan to ONC.

November 29, 2010: ONC approved North Carolina's Statewide HIE Strategic Plan and Operational Plan.

December 1, 2010: ONC transferred the Cooperative Agreement from HWTF to NC HIE.

December 22, 2010: Governor Perdue issued an Executive Order appointing the NC HIE as the State Designated Entity. Management and oversight of the State HIE Cooperative Agreement was transferred from HWTF to NC HIE. The process began within ONC to transfer the Cooperative Agreement to the NC HIE.

December 2010: HWTF in partnership with NC HIE and North Carolina Community Care Network submitted a completed application for the Challenge Grant.

January 27, 2011: ONC awarded HWTF a $1.7 million Challenge Grant to deploy medication management services.

First Quarter 2011: The NC HIE workgroups continued to meet focusing on the following: The Governance Workgroup's focus shifted to their primary tasks in this phase: 1) who will participate in the Statewide HIE; 2) rules and policies for participation; and 3) enforcement and oversight. The Finance Workgroup began focusing on developing the work plan for the ongoing sustainability effort. The Clinical and Technical Operations Workgroup began their efforts by focusing on these tasks: 1) refining the requirements for core and value-added services; 2) providing input on request for proposals; and 3) helping facilitate deployment and integration of HIE services into the health system. The Legal and Policy Workgroup focused on drafting consensus legislation that would facilitate an opt-out consent model for the exchange of patient information. April 1, 2011: ONC transferred the Cooperative Agreement to the NC HIE effective December 1, 2010.

April 25, 2011: The NC HIE released the request for proposal (RFP) for the technology service vendor to partner with the NC HIE in providing the technical services to execute the plan developed by the consensus of the wide array of healthcare interests in North Carolina. Over 30 vendors completed Letters of Interest with 17 vendor or vendor teams submitting formal proposals.

June 27, 2011: Senate Bill 375 – Facilitate Statewide Health Information Exchange passed both the House and Senate. It was signed into law by the Governor on June 27, 2011. The bill is designed to facilitate and regulate the disclosure of protected health information through the voluntary, NC Health Information Exchange (NCHIE) network. http://www.ncga.state.nc.us/Sessions/2011/Bills/Senate/PDF/S375v0.pdf

July 27, 2011: The NC HIE filed its application for tax exempt status.

August 2, 2011: After the highly structured review of the technology service proposals, the NC HIE and the Capgemini/Orion Health consortium executed a Master Development Services Agreement and related Statement of Work. NC HIE and the Capgemini consortium are working together to deploy the HIE infrastructure and on-board participants first quarter 2012.

August 9, 2011: ONC transferred the Challenge Grant to the NC HIE.

September 28, 2011: Blue Cross and Blue Shield of North Carolina (BCBSNC), in collaboration with the North Carolina Health Information Exchange (NC HIE) and Allscripts, launched the North Carolina Program to Advance Technology for Health (NC PATH)—a program created to place North Carolina at the forefront of healthcare reform. NC PATH will equip physicians with Allscripts EHR software and support, and connect healthcare providers across the state through NC HIE. Designed to meet the needs of both physicians and patients, NC PATH will move North Carolina into a new era of quality healthcare. The NC HIE will manage the program administration and facilitation as well as support all members of the healthcare community in North Carolina regardless of their EHR technology. BCBSNC is donating the cost for the implementation of an Allscripts EHR as follows: For in-network providers, BCBSNC will cover 85 percent of the software cost, support and maintenance costs and the NC HIE connectivity and membership fee for a period of five years. The provider is responsible for the remaining 15 percent. For free clinics, BCBSNC will cover 100 percent of the software cost, support and maintenance costs and NC HIE connectivity and membership fee costs for a period of five years.

March 1, 2012: NC HIE network goes live and connects a dozen independent primary care providers through the NC PATH partnership.

March 16, 2012: N3CN becomes the first Qualified Organization (QO) and will serve as an organizing entity to connect providers and hospitals with NC HIE.

March 31, 2012: North Carolina Community Health Center Association announces plans to connect safety net providers to NC HIE.

May 1, 2012: Solstas Labs and NC HIE partner to provide labs through NC HIE.

May 3, 2012: NC HIE received 501(c)(3) status.

July 30, 2012: NC HIE launches Direct Secure Messaging.

August 31, 2012: NC HIE completes NwHIN conformance testing.

September 7, 2012: LabCorp and NC HIE partner to provide labs through NC HIE.

October 8, 2012: NC HIE board of directors approved a merger proposal from N3CN.

December 10, 2012: N3CN board of directors approved the merger with NC HIE.

December 12, 2012: Halifax Regional Medical Center is the first hospital to go live on the NC HIE network.

February 1, 2013: The merger of CCNC and NC HIE is finalized. NC HIE becomes a subsidiary of CCNC and appoints Michael Jongkind of CCNC as interim CEO. A new board of directors composed of existing CCNC board members is established.2013-2014: Few records on milestones while under CCNC governance were transferred to the NC HIEA. However, during 2013-2014, the NC HIE went from zero to 30+ hospitals contracted to participate by October 2014, including the UNC Health Care System, which accounted for eight hospitals and over 600 ambulatory facilities. In summer 2014, the first hospitals went live with NC HIE's HISP/Direct Secure Messaging service, integrated directly into their Epic and Meditech EHR systems.

April 2015: NC DHHS performed an assessment of the state of the HIE under CCNC, and due to concerns about sustainability, recommended the HIE be brought under state governance.

September 2015: The North Carolina Health Information Exchange Authority (NC HIEA) was created in Session Law 2015-241 s. 12A.4 and 12A.5 in September 2015 to oversee and administer North Carolina's HIE. The legislation also mandates connection/participation/data contribution by health care providers in North Carolina that receive Medicaid and other state funds for provision of health care services.

February 2016: The NC HIE was transferred from the Community Care of North Carolina (CCNC) / North Carolina Community Care Networks (N3CN) structure to the new state agency, the North Carolina Health Information Exchange Authority (NC HIEA).

March 2016: The first participant contracts were executed with the NC HIEA, and integration/re-connection work began for legacy and new participants.

September 2016: The NC HIEA rebranded the State-Designated HIE network from NC HIE to NC HealthConnex.

September 26, 2016: The NC HIEA Advisory Board, comprised of health care and state government leaders appointed by the NC General Assembly, convened for the first time.

October 2016: The NC HealthConnex statewide provider directory is launched, and contains 5,000+ provider addresses.

November 22, 2016: The NC HIEA Behavioral Health Working Group has their inaugural meeting to discuss the challenges and opportunities of this community connecting to NC HealthConnex.

December 2016: At the recommendation of the NC HIEA Advisory Board, the NC HIEA adopted a scalable data standard that is based upon Meaningful Use Data Elements, the Continuity of Care Document (CCD), and Consolidated Clinical Document Architecture (CCDA). The NC HIEA also hosted the inaugural Disease Registry Working Group meeting.

January 2017: At the recommendation of the NC HIEA Advisory Board, the NC HIEA resolved not to charge a fee for connection and submission of data to comply with the law, and developed a second Participation Agreement to allow for submission-only participation with NC HealthConnex. This agreement allows a Participant to be in

compliance with the connection and reporting legislative mandate, but does not allow the Participant to query the HIE or utilize its value-added features. As of May 2017, no entities have signed a submission-only Participation Agreement.

March 2017: The NC HIEA issued the 2016 NC HIEA Annual Report, noting that 835 unique facilities were connected to NC HealthConnex, and the HIE network contained patient data on 3.5 million unique patients—over one-third of the state population (as of December 31, 2016).

May 2017: A provider directory update goes out to all participants, containing 11,000+ Direct addresses of NC health care providers.

June 2017: Session Law 2015-241 s. 12A.5 is amended to push out mandated dates for required connection/participation/data contribution by health care providers in North Carolina that receive Medicaid and other state funds for provision of health care services.

A.6.2 Other HIE Initiatives in North Carolina

Coastal Connect Health Information Exchange (CCHIE) was established in 2009 by hospital stakeholders who deployed HIE technology in 2011 as a way to securely connect unaffiliated ambulatory and acute healthcare providers in southeastern North Carolina for electronic sharing of patient care information to support patient-centric care transition between providers, reduce redundant testing, and realize efficiencies in workflow. CCHIE is governed by a multidisciplinary board composed of representatives from stakeholder hospitals community practices, the state Medicaid management entity, and a community representative. CCHIE's sustainability model is supported by its founding stakeholders as well as ambulatory provider participation fees.

Over 6.7 million patient encounters are indexed on the HIE's Patient Search tool which allows HIE participants access to care documents from over 100 acute and ambulatory data contributors; including lab results, pathology results, radiology results, discharge summaries, encounter information, demographics and CCD's. Other services provided by CCHIE are ADT (Admission, Discharge, and Transfer) notifications, results delivery, and order-results.

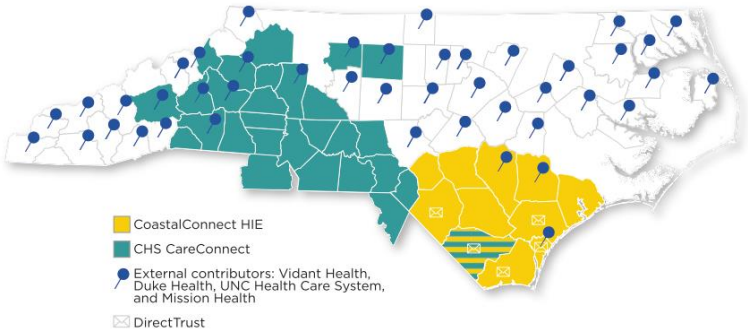


Figure 4 - CC HIE Electronic Information Network

CCHIE's initial footprint of 11 counties has expanded to 71 counties through HIE to HIE connections with Carolinas HealthCare CareConnect and Mission Health as well as eHealth Exchange connections with Vidant Health, Duke Health, and UNC Health Care.

2017 Update: With the achievement of connecting health care statewide, CCHIE has realized value for its participants in having access to patient information at the point of care, improving care management and overall patient and clinician experience.

For more information, please visit www.coastalconnect.org.

Carolinas HealthCare System CareConnect, a community model HIE, has 21 connected Carolinas HealthCare System hospitals and its physician networks, four system regional hospitals, four independent health systems in our region, plus connections to two other HIEs in the state – Coastal Connect HIE and Mission Health's HIE. The coverage represents areas across North Carolina and South Carolina. Carolinas HealthCare System is one of the nation's leading and most innovative healthcare organizations providing a full spectrum of healthcare and wellness programs throughout North and South Carolina.

For more information, please visit http://www.carolinashealthcareconnect.org/about-us

Western North Carolina Data Link: On January 26, 2006, WNC Health Network launched a solution that ultimately would link 17 area hospitals together to electronically share patient data. The innovative solution, initially implemented by IBM, was the first regional health information exchange in North Carolina and one of the largest in North America at the time. WNC Data Link allowed participating doctors and other authorized clinicians to quickly, easily, and securely view patient information over the internet. Access to this system provided clinicians with patient specific information so they could more accurately and efficiently provide treatment, avoid potential problems, and eliminate unnecessary testing. Over time, changes in the healthcare industry and the evolution of healthcare information exchange alternatives led to the decision to close WNC Data Link. The system was deactivated on September 15, 2014.

A.7 MMIS and Current HIT/HIE Relations with MITA Assessment

NCTracks and a new reporting and analytics solution include a data warehouse, decision support, business intelligence and fraud and abuse detection functionality. In 2010, it was stated in the original SMHP that part of the challenge for the HIT/HIE Project would be the ability to make modifications to NCTracks to support the HIT/HIE environment. Consideration for NC-MIPS and the NC Medicaid EHR Incentive Program have been a part of the NCTracks planning process, and NC-MIPS was fully integrated with NCTracks for payment and provider data purposes in 2013. *Section C. Administering and Overseeing the EHR Incentive Program* describes this coordination in more detail. DHHS is also coordinating its efforts with the planned MITA transition which will result from the implementation of NCTracks.

A.7.1 Coordination of HIT Plan with MITA Transition Plans

DHHS is coordinating its HIT Plan efforts with the MITA transition plans for the Medicaid Enterprise Solution (MES) Procurement Project. Additionally, DHHS recognizes that there is a synergistic connection between the HIT Plan and the MITA "to be" assessment, which will consider the state's goals for HIT when determining the future vision for the Medicaid and Behavioral Health Enterprises.

DHHS completed the MITA SS-A for the Medicaid Enterprise and the SS-A for the Behavioral Health Enterprise, focusing on the current and future (five and 10 years out) view of the business capabilities. MITA Framework 3.0 assessment tools define the capabilities for each Medicaid business process. The Substance Abuse and Mental Health Services Administration Behavioral Health MITA Version 2 assessment tools define these capabilities at a high level for Behavioral Health business processes.

The state used the SS-A process outlined in the MITA Framework 2.0 as a guide for the Medicaid assessment and performed the SS-A using the 80 MITA Version 3.0 business process templates and their associated business capability matrices. Additionally, the state developed new business processes as appropriate.

Because the MES solutions will support a multi-payer system which pays claims for Behavioral Health and Public Health programs in addition to Medicaid, the Behavioral Health SS-A, in addition to interviewing Behavioral Health personnel, included assessment of MES capabilities for Behavioral Health-only services, claims and providers and associated reporting and analytics requirements as appropriate.

To determine the future vision ("to be") for both the Medicaid and Behavioral Health Enterprises, the team engaged DHHS executive management and Division leaders to target business process and technical goals and objectives for Medicaid and Behavioral Health over the next five and 10 years. The team also used other resources for determining the department's future goals and objectives, including the MITA 3.0 Concept of Operations, the DHHS Business Plan, DHHS Strategic Plans, and approved future enhancements to the MES.

The output from the MITA SS-A, a comprehensive report of the state's assessment, was submitted to CMS and internal stakeholders on October 26, 2016.

A.8 Medicaid, HIE, REC and Health and Human Services HIT Coordination

Per the SL 2009-0451 of the NC General Assembly, NC DHHS, in conjunction with the SCIO and the NC Office of Economic Recovery and Investment, shall coordinate HIT policies and programs within North Carolina. The Department's goal in coordinating state HIT policies and programs shall be to avoid duplication of efforts and to ensure that each state agency and other public entity, as well as the private entity undertaking HIT activities associated with ARRA, leverage its greatest expertise and technical capabilities in a manner that supports state and national goals. This law also directs that NC DHHS shall establish and direct an HIT management structure that is efficient and transparent and that is compatible with the ONC governance mechanism.

Prior to this session bill, the Secretary of the NC DHHS formed the state HIT Steering Committee (previously HIT workgroup) referenced above, to coordinate the department's work around HIT/E. This included coordination among the several key ARRA funding programs, the State Medicaid HIT Plan, Section 3201 Funding, the HIE, Section 3013 Funding and the REC, Section 3012 Funding.

In response to SL 2009-0451, DHHS created the Office of Health Information Technology (OHIT). Positions included the OHIT director, a privacy and security officer, a technical director, administrative assistant, and a full-time program manager. The OHIT is responsible for monitoring and coordinating activities of all other state agencies and non-governmental organizations engaged with HIT and HIE activities, either of a planning, research or operational nature. From May 2013 until April 2014, the OHIT was 100 percent vacant. A new director served as the only OHIT employee from April 2014 through July 2016, and the OHIT has been vacant since. A new OHIT director was hired in July 2017 and will work closely with the NC HIEA on coordinating connections of Medicaid and State-funded providers.

As of February 2017, the NC HIEA has also established monthly meetings with the NC Medicaid EHR Incentive Program, the NC ORH, and the NC AHEC to coordinate and collaborate across provider outreach and education initiatives relative to EHRs and connectivity to NC HealthConnex.

A.9 DMA's HIT relationship with the NC AHEC

The NC AHEC Program previously served as the NC REC and has supported over 5,271 primary care and sub-specialty providers in their pursuit of meaningful use of an electronic health record system. This exceeds the program's original goal of 3,465 providers set at the start of the program. By deploying highly skilled staff through their nine regional centers, NC AHEC is able to support primary care and specialty care physicians with robust practice assessments, workflow redesign, selection and implementation and the appropriate use of EHRs to achieve MU of the technology and improve health outcomes throughout the state.

NC AHEC has expanded its consulting workforce of EHR-experienced professionals to serve the nine regions of the state defined in its original grant application to the Office of the National Coordinator for HIT. The continuation of these services will better enable NC AHEC to help practices implement technology and/or use their previously existing technology; thereby, meeting the federal standards of MU/QPP MIPS. The NC AHEC program has

continued to build capacity in coaching practices through transformation to prepare for new pay-for-value payment models and stands ready to quickly disseminate technical assistance to its base of 1,319 primary care and subspecialty practices.

NC AHEC maintains a sophisticated database to track and monitor the progress of the providers associated with the services its provides. This database allows for the assignmenet of caseloads to the on-site technical staff, monitoring of deliverables for contracts and an overall database of providers and their progress in their pursuit of the incentive program.

DMA and NC AHEC collaborate to share information. Regularly scheduled meetings between DMA and NC AHEC are planned to leverage outreach and educational opportunities. DMA and NC AHEC share information on EP and EH enrollment statistics and trends, risks and issues, and training and outreach schedules.

A.10 Current Innovations – Affecting the Future Direction of EHRs

DMA is actively participating in the statewide effort to support the utilization of CEHRT through its work with NC AHEC, its relationship with the NC HIEA, and by leveraging physician participation in the CCNC medical home model.

A.10.1 North Carolina Community Care Networks, Inc. (N3CN)

Community Care of North Carolina is described in the **State Plan of North Carolina** as the **enhanced Primary Care Case Management program** for the state to manage Medicaid, Health Choice, and targeted populations. The program is carried out through 14 regional networks of providers.

North Carolina Community Care Networks, Inc. is the private non-profit organization through which the state contracts to administratively oversee the networks to ensure Community Care of North Carolina affiliated providers meet program goals and performance measures.

The regional provider networks ensure there is a sufficient panel of primary care providers to serve enrolled populations with initiatives agreed upon by DMA and NCCCN within their defined areas. The networks establish uniform processes for the functions to carry out these initiatives.

Below is a diagram of the regions:

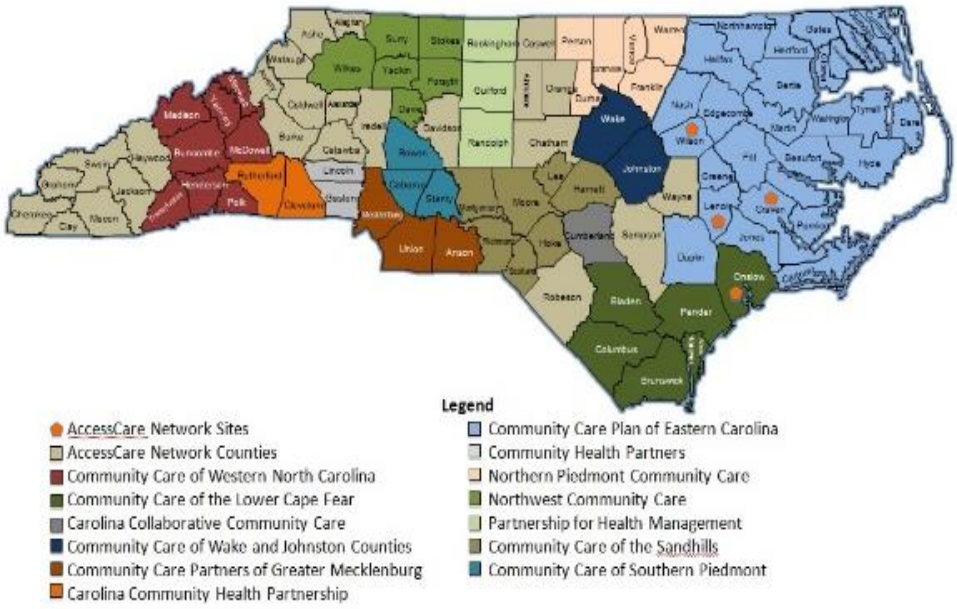


Figure 5 - Diagram of N3CN's networks

NCCCN uses its Informatics Center to carry out some of the requirements outlined in State Plan and Contract#28023, between DMA and N3CN. A diagram of how the Informatics Center functions can be seen in **Figure 6** below:

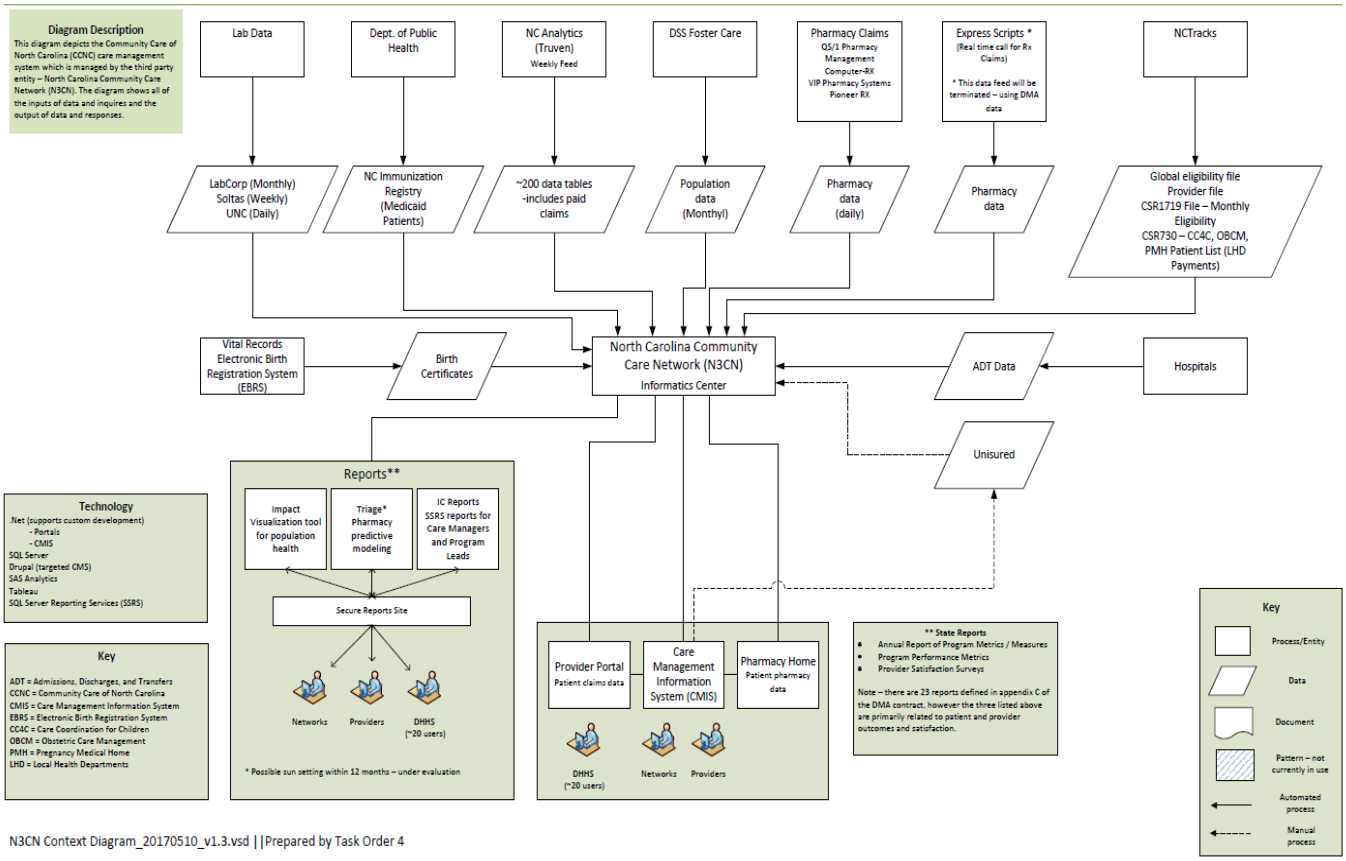


Figure 6 - N3CN As-Is Context Diagram

The Informatics Center has healthcare claims data provided by Medicaid, as well as health information about program participants obtained directly from healthcare providers and care managers and/ or the primary care medical record. Additional data sources include: SureScripts pharmacy data pharmacy management system vendors such as PioneerRx, Computer Rx, and QS/1, among others, laboratory results from LabCorp and UNC Healthcare, and real-time hospital admission/discharge/transfer data from 56 large NC hospitals. Information is accessed by the Community Care networks and providers to identify patients in need of care coordination; to facilitate disease management, population management, and pharmacy management initiatives; to enable communication of key health information across settings of care; to monitor cost and utilization outcomes; and to monitor quality of care and provide performance feedback at the patient, practice, and network level.

Informatics Center Functions and Front-End Applications:

Case Management Information System (CMIS):

CMIS enables a continuity of care record for patients as they migrated "in and out" of Medicaid, Health Choice (North Carolina's CHIP program) and un-insurance. CMIS provides a standardized framework for care manager workflow management and documentation, incorporating tools for patient assessment, goal setting, and health coaching.

The CMIS system, and all other IC applications within the Informatics Center (IC) environment, is sourced from the IC data warehouse. This allowed for greater developmental flexibility and the opportunity to

exchange information across IC applications (for example: care management data fields may be visible through the Provider Portal, or available for reporting in the Reports Site; while chart audit reports may be retrieved within the CMIS patient record). Care management tools are incorporated into the CMIS system, such as comprehensive health assessment and functional assessment tools, as well as disease-specific screening and monitoring modules, a bulk task capability to allow for population-level interventions (for example, to send a flu shot reminder to all patients with diabetes), secure messaging to allow care managers to communicate patient health information securely to primary care providers or others involved in the patient's care outside of the CMIS system. CMIS also includes reporting to allow managers to more closely monitor the caseload and activities of the care management workforce. As the complex care management service offerings increased other enhancement releases included features for Call Center staff, (which consist of health education and health coaching), integration of patient education tools (Healthwise and Meducation), and a mobile app (for care management staff to use on home visits or when internet connectivity is unavailable). As of April 2017, over 2,200 care managers statewide use this care management platform, working with over 120,000 patients every month.

Pharmacy Home*:*
The Pharmacy Home Project was first created in 2007 to support medication management initiatives, including collaborative efforts by care managers, pharmacists, primary care providers, and others to ensure that patients achieve optimal outcomes from medication use. More recently, the Pharmacy Home Project expanded into the community pharmacy setting with the 2014 creation of the Community Pharmacy Enhanced Services Network (CPESN). The CPESN network currently consists of 277 community pharmacies across NC that provide enhanced services and medication use supports that assist patients with management of complex medication regimens, particularly in situations where social determinants of health, health literacy challenges, and/or lack of caregiver supports affect the patient's ability to adhere to his/her regimen. Like their medical home partners, the goal of CPESN network pharmacies is to improve patient outcomes and quality of care while lowering costs.

The PHARMACeHOME application was developed in order to enable the various care team members to fulfill their medication management roles and document accordingly. The various features of PHARMACeHOME have allowed care team members to: retrieve information about filled prescriptions and medication adherence, document medication lists from multiple care settings, conduct medication reconciliation, identify and track drug therapy problems over time, create summary notes or care plans, view documentation created by other care team members, task other care team members with follow up, access select medication-related care gaps and risk scores, view medical home care team names and contact information, utilize information such as laboratory results that is housed in Provider Portal application, and access reports used to support population health, practice support, and quality improvement initiatives.

In order to provide CPESN pharmacies with risk scores for patients in their attributed panel, pharmacies need to provide fill history data. These data feeds were received from pharmacy management system vendors such as PioneerRx, Computer Rx, and QS/1, among others. In order for PHARMACeHOME to be able to receive and process medication data from a variety of clinical systems and from claims, a commercially maintained drug database is a key requirement; MediSpan is used for this purpose. Similarly, pharmacy identifiers from NCPDP enables the ingestion of both claims data from Truven and fill history from pharmacies in the CPESN and assign those records to the correct dispensing pharmacy.

Informatics Center Reports Site: The IC Reports Site allows the efficient and secure distribution of SSRS reports and custom files through a secured web-based report access and management application, with report access permissions determined by the appropriate scope of access of individual users. Network-level administrators authorize their own employees and providers by customizing their scope of access by practice or region. A report built at the statewide level can be readily distributed according to the permission tree structure, such that only the appropriate patient information is visible to each end user. With all of this said, Networks cannot see individual patient data in other networks. All reports are printable and can be exported into PDF or Excel format. Reporting is currently available to Networks, local health departments and Local Management Entities who provide population management services for the behavioral health population.
Tableau dashboards provide an additional level of analytic access for Network directors. These interactive dashboards utilize the same underlying data sources as the SSRS reports but allow more user-controlled exploration. These are currently presented in a separate CareImpact website and will soon be utilizing the same access creation mechanism as the IC Report site uses.

Informatics Center Provider Portal: The Informatics Center Provider Portal was built with the treating provider in mind, offering elements of CMIS, Pharmacy Home, and the Reports Site, tailored to the target user. Through a secure web portal, treating providers in the primary care medical home, hospital, emergency room, or mental health system can access a Medicaid patient health record which includes patient information, care team contact information, visit history, pharmacy claims history, and clinical care alerts. Importantly, the use of Medicaid claims data provides key information typically unavailable within the provider chart or electronic health record. For example, providers are able to see encounter information (hospitalizations, ED visits, primary care and specialist visits, laboratory and imaging) that occurred outside of their local clinic or health system. Contact information for the patient's case manager, pharmacy, mental health therapy provider, durable medical equipment supplier, home health or personal care service provider is readily available. Providers can discern whether prior prescriptions were ever filled, and what medications have been prescribed for the patient by others. Built-in clinical alerts appear if the claims history indicates patient may be overdue for recommended care (e.g., diabetes eye exam, mammography).

The Provider Portal also contains key resources for assisting providers in the management of Medicaid patients, such as a compendium of low-literacy patient education materials, and practice tools for risk assessment and disease management. Through a seamless link into a licensed service maintained by an outside partner, providers can retrieve medication information for patients in multiple languages, in video or print format. Medical home providers may directly access population management reports and quality metrics for their own patient population through a seamless link into the Informatics Center Reports Site.

As of March, 2017, over 2,400 providers were using this Portal, accessing information for over 49,000 patients per month.

Analytics and reporting convey important information to Networks and primary care medical homes for ensuring appropriate identification and care of the Medicaid population, including:

- Population health data via monthly member demographics, conditions, costs and utilization (Inpatient and ED usage)
- Risk Stratification layered with historic performance to assess Impactability, the likelihood of a care manager's intervention impacting the individual member and their health outcomes. The impact models actually assess the average 6-month savings likely to be yielded through care management

for each member. By prioritizing outreach based on a member's impactability, care managers are able to apply its limited resources to the patients it can impact most.
    - Transitional Care Priority identifies those admissions with the highest likelihood of impact for care managers to engage, accompanied with Outpatient Follow Up recommendations and an assessment of how highly to prioritize a home visit
    - Priority identifies those patients not yet in the hospital who are struggling with their conditions and likely to be impacted by a care management intervention
- This member level information and the risk indicators are presented in the Priority Patient report, alongside any current case information.
- Given the emphasis on integrated care for Behavioral Health, the Priority Patient report also includes specific metrics of interest to behavioral health specialists and providers working with those who have behavioral health needs, such as medication fills by medication type, last fill dates and utilization by certain diagnoses.
- This data also feeds into a Member dashboard that network leaders can utilize to study demographic characteristics, prevalence of chronic medical and mental health conditions, spending by category of service, and rates of hospital, ED, and other service use trends in their network and counties compared to that of others. This aids in program planning and resource allocation; identification of outlier patterns (such as unusually high rates of personal care services); and tracking of local utilization patterns over time.
- Through the joint efforts of CCNC, NC DHHS, and the NC Hospital Association, NCCCN receives daily notification of Medicaid population inpatient and ED visits from 51 NC hospitals, as well as additional feeds from 16 hospitals directly. This real-time notification allows immediate identification of patients with high Transitional Care Impactability, ensuring care management support as they transition from hospital to home, including pharmacist review of medications and follow-up in the primary care medical home.
- NCCNC works in partnership with the NC Divisions of Medical Assistance and Public Health to operate the Pregnancy Medical Home (PMH) program, aimed at improving the quality of maternity care, improving maternal and infant outcomes, and reducing health care costs. The Pregnancy Medical Home program includes the majority of maternity care providers across North Carolina, more than 350 practices and 1,600 individual providers. As PMH participants, prenatal care providers are supported to increase access to care and improve outcomes for the pregnant Medicaid population. The primary focus of the PMH model is on preterm birth prevention. A separate reporting suite supports this initiative, providing patient lists with demographics, risk factors from their Risk Screenings in CMIS, pregnancy metrics (such as delivery age and weight) and services rendered.
- Obstetric Care Management Reporting - in support of our Obstetric Care Management program, a separate reporting suite is available to Local Health Departments and Networks to care for women on Medicaid through their pregnancies and delivery. Recently the Maternal-Infant Impactability Score was developed to better target pregnant women for intervention in order to reduce low birth weight deliveries.

Tracking of Care Quality Indicators. In addition to the quality measures tracked in the annual chart review process, NCCCN is able to track a number of quality measures using claims data alone, with quarterly updates. Measures can be aggregated to the practice, county, network, or statewide level. Results can be viewed in spreadsheet format for easy comparative view across practices, or as a comprehensive practice-level, county-level, network-level, or program-level reports with trend information. Reports include measures related to diabetes, asthma, heart failure, cardiovascular disease, pediatric well visits

and dental care, and adult breast, cervical, and colorectal cancer screening. On a quarterly basis, a DMA Dashboard report is provided to DMA.

*Monitoring **of Risk Adjusted Key Performance Indicators:*** Clinical Risk Group (CRG)-risk adjusted analytics are applied to improve the accuracy of monitoring cost and utilization metrics over time, and to improve efficiencies in identifying patients most appropriate for care management services. 3M-developed methodologies are used to identify potentially preventable hospital admissions, readmissions, ED use, and ancillary services, to more accurately identify patients and areas where costs and utilization are higher than expected, accounting for patient acuity. This allows risk-adjusted comparisons of cost and utilization performance across Networks and Practices to facilitate development of techniques to impact unnecessary costs and measure impact of changes in care management approaches. Tracking of key metrics provides stakeholders with assurance that efforts are aligned toward the overarching goals of cost savings and quality improvement, and that all networks are held accountable for the overall performance of the program.

Quality Measurement and Feedback (QMAF) Chart Review Process: Chart audit, quality measurement and performance feedback has always been an integral component of clinical quality improvement initiatives. As the program expanded over time to serve a larger population with multiple complex comorbidities, a broad array of quality measures has been adopted, based on evidence-based care guidelines for diabetes, hypertension, ischemic vascular disease, and heart failure. Medicaid claims data is used to generate a random sample of eligible patients and to pre-populate audit tool elements according to an individual's identified chronic conditions. Approximately 4,000 medical record reviews are completed across 900 practices statewide to provide program-level results on an annual basis.

A.11 State Law and Regulatory Changes to Support HIT Activities in NC

A close review of North Carolina state statutes that affect healthcare providers' disclosure of patient information found a number of laws that were outdated, ambiguous, and out of alignment with the federal HIPAA Privacy Rule. In an effort to harmonize NC state laws with HIPAA and to facilitate the use of secure electronic exchange of patient information in a manner consistent with HIPAA, the 2011 General Assembly enacted two bills, SB 375 and SB 607. SB 375 establishes the "North Carolina Health Information Exchange Act," which is codified in Article 29A of Chapter 90 of the NC General Statutes. The Act regulates the use of the voluntary statewide HIE Network in a manner consistent with HIPAA Privacy and Security Rule. SB 607 made conforming changes to specific sections of existing North Carolina law that were identified as barriers to MU of electronic HIE.

In 2015, the NC General Assembly passed NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2015-264, directing the formation of a new state agency to assume governance of the statewide HIE, and stipulating oversight mechanisms and a connectivity and data-sharing mandate for all providers that receive Medicaid and other state funds for the provision of health care services. The laws direct the newly formed NC HIEA to establish, administer and provide ongoing support for the statewide HIE network, now called NC HealthConnex. The laws also call for the implementation of a health information exchange analytics data warehouse to be used by HIE stakeholders for the purpose of "leverage[ing] historical and prescriptive data for the purpose of reducing healthcare costs and improving quality and access to care." Importantly, the laws mandate connection to and data sharing with NC HealthConnex by Medicaid-funded facilities statewide by specified dates in 2018, and provide state funds to assist these facilities with the costs of onboarding. This new state governance structure and funding represent enormous opportunity for the state's Medicaid providers to meet their Meaningful Use obligations and use shared patient data to inform care decisions for better quality of care in 2016 and beyond.

Also of note, two other 2015 laws direct the collaboration of other state payers and systems with the statewide HIE network. NC Session Law 2015-245, regarding transformation of Medicaid and Health Choice programs in North Carolina, 1) directs all health plans serving Medicaid patients under the new structure to connect to the statewide HIE network, and 2) requires utilization of the statewide HIE network to perform certain functions currently performed by N3CN's Informatics Center in coordination with the new delivery system. NC Session Law 2017-57 clarified and amended the connection mandates of NC Session Law 2015-245 in June 2017. NC Session Law 2015-241 Section 12.F.16.(f)(1) stipulates that the state's Controlled Substances Reporting System be integrated with the statewide HIE network (as well as achieve interstate connectivity and meet the federal standard of data security protocols) in order to assist with the stated goals: "to improve performance, establish user access controls, establish data security protocols, and ensure availability of data for advanced analytics."

A.12 HIT Activities Crossing State Borders

North Carolina borders four states: Virginia, Tennessee, Georgia, and South Carolina. It shares significant medical trading areas on the borders of Virginia and South Carolina. As North Carolina develops its health data exchange policies and technical services, has planned alignment opportunities with neighboring states driven by:

- Data exchanges that naturally flow across state borders;
- Opportunities for shared HIE infrastructure design and development;
- Cross-border provider Medicaid incentive determinations; and,
- Approaches to provider adoption of EHRs.

North Carolina partners with other states around HIT/HIE, including:

- In April 2010, the states of Tennessee and Alabama formed the Southeast Regional HIT-HIE Collaboration ("SERCH") to serve as a forum for discussion among bordering states. Along with Alabama and North Carolina, participating states include Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, South Carolina, Tennessee, and Virginia. Through SERCH, representatives from each state's Medicaid agency, state HIT offices, and RECs participate in weekly conference calls to discuss topics which the group determines to be of critical importance for advancing HIE and HIT;
- In June 2010, North Carolina participated in a multi-state collaborative (Alabama, California, Colorado, Georgia, Maine, Missouri, New York, North Carolina, South Carolina, and Tennessee) that developed and released an RFI from vendors regarding enterprise medication management services;
- Through NCHICA, North Carolina has also participated in a Health Information Security and Privacy Collaborative and NHIN/eHealthExchange activities;
- DMA participates in several e-communities of practice, including several related to administration of the EHR Incentive Program;
- DHHS shares its SMHP and provider guidance related to administration of the EHR Incentive Program with other states upon request and via the EHR Incentive Program website; and,
- DMA works with bordering states to resolve data issues related to administration of the EHR Incentive Program stemming from providers that practice in multiple states;
- North Carolina is a member of the Strategic Health Information Exchange Collaborative (SHIEC), and as of 2017, serves as a member of its Marketing and Communications Committee.

The OHIT director serves as a main point of collaboration between North Carolina and its neighboring states.

A.13 Interoperability Status of the State Immunization Registry & Public Health Surveillance Reporting Database

The North Carolina Immunization Registry (NCIR) is a secure, web-based clinical tool which is the official source for North Carolina immunization information. Immunization providers may access all recorded immunizations administered in North Carolina, regardless of where the immunizations were given.

Access to the NCIR via the North Carolina Identity Management (NCID) system is limited to North Carolina Immunization Program medical providers and affiliates. Access to the immunization information contained within the NCIR is meant for health care providers in the prevention and control of vaccine-preventable diseases and is not intended for general public use. The NCIR stores immunization records that are client-specific and created by the client's health care provider or through our data feed with NC Vital Records.

The primary purposes of the NCIR are:

- To give patients, parents, health care providers, schools and child care facilities timely access to complete, accurate and relevant immunization data;
- To assist in the evaluation of a child's immunization status and identify children who need (or are past due for) immunizations;
- To assist communities in assessing their immunization coverage and identifying areas of under-immunization; and
- To fulfill federal and state immunization reporting needs.

In February 2016, NC DPH began accepting the electronic submission of data for the NCIR. Eligible Hospitals (EHs) and Eligible Professionals (EPs) register their intent individually using the National Provider Identifier. EHs and EPs complete a short survey that captures information about the technical capability of their electronic health records to submit immunization information to the NCIR. Upon successful completion of registration providers receive an auto-response e-mail confirming registration and then an onboarding invitation from Immunization Registry.

The NCIR is utilizing Vendor Hub, Organization's Hub and NC HIEA to connect to the NCIR. All of the methods use web services to connect to the NCIR, and a provider can connect to the NCIR using any of the methods.

	Batch Uni-directional	Bi-directional
Purpose	Data transferred once a day from NCIR to EHR. All data modified or added since last download sent out	The NCIR can transfer data to EHRs and EHRs can transfer data to the NCIR. Transfers can occur in real time
Direction of Transfer	NCIR to EHR	Vaccination update: NCIR to EHR History/Recommendations: EHR to NCIR
File Formats	HL7 standards version 2.5.1 and 2.4	HL7 2.5.1
Transaction Types	Unsolicited vaccination update (VXU)	Updates: HL7 2.5.1 VXU/ACK Queries: HL7 2.5.1 QBP/RSP
Transport Protocol	n/a	Webservices
Currently in Use?	Yes	Yes

Figure 7 - NCIR Transfer of Data

Within DPH, several public health surveillance databases are utilized to meet disease management, containment and reporting requirements. These systems and their supporting systems are described below.

Electronic Laboratory Reporting (ELR):

ELR sent to the Division of Public Health is sent to one of two systems: (1) the NC Electronic Disease Surveillance System (NC EDSS), or (2) the NC Lead Surveillance System (NC LEAD).

NC EDSS provides communicable disease surveillance, case follow-up and contract tracing, and disease outbreak management for public health epidemiologists and disease investigation specialists to receive, manage, process and analyze electronic data from public health entities and laboratories. Services include support for legally required reporting of communicable diseases to the health department by clinicians and laboratories, including electronic laboratory reporting; case investigation and follow-up; and communicable disease outbreak management.

NC LEAD allows public health officials to receive, manage, process, and analyze data for cases of suspected childhood lead exposure. ELR results indicating lead exposure are imported directly into NC LEAD, enabling immediate exchange of information between clinics, labs, and local health departments, as well as data analysis for the identification, tracking, and reporting of childhood lead exposure.

The current interface statuses of NC EDSS and NC LEAD are:

- From State Laboratory for Public Health – functioning ELR to NC EDSS and NC LEAD
- NC EDSS and NC LEAD to CDC – functioning – NC EDSS transitioning to HL7 messaging over next several years
- From hospital laboratories - NC EDSS is receiving functioning ELR for mandatory reporting from 26 facilities including four major multi-facility health systems in the state. DPH is partnering with the

North Carolina Health Information Exchange Authority to use its health information exchange, now known as NC HealthConnex, to provide a message relay service for hospital laboratories to transmit ELR to DPH.

- From National Commercial Laboratories – DPH is receiving functioning ELR for by law reporting only, from LabCorp, for NC EDSS and NC LEAD. DPH is receiving functioning ELR for NC LEAD from Mayo Medical Laboratories and is in the process of developing ELR for NC EDSS from Mayo as well. DPH is also in the testing phase with Quest for implementing an ELR feed to NC EDSS and NC LEAD.
- From providers, local health departments, and NC HealthConnex – DPH is analyzing feasibility of receiving electronic case reports (eCR) of reportable communicable diseases from health information systems into NC EDSS, which would replace paper-based reporting.
- NC EDSS from VR deaths and OCME- not planned or funded.

Please note: NC DPH is capable of and is accepting electronic Syndromic Surveillance data from eligible hospitals, via the NC Hospital Association, but is not requesting and will not receive electronic syndromic surveillance from eligible professionals.

NC Disease Event Tracking and Epidemiologic Collection Tool - The NC Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) addresses the need for early event detection and timely public health surveillance in NC using a variety of secondary data sources like emergency departments, poison control centers, pre-hospital medical information and NC College of Veterinary Medicine.

StarLims: State Laboratory Information System for State Laboratory testing.

Health Information System (HIS): The HIS replaced the functionality of the Health Services Information System (HSIS) that was operational from 1983 to 2010. The HIS provides an automated means of capturing, monitoring, reporting, and billing services provided in local health departments, CDSAs, the North Carolina State Laboratory for Public Health and Environmental Lead Investigations by state staff in the Environmental Health Section. The HIS allows for the submission of claims to Medicaid and the reporting of all services delivered from local vendor software systems via a common layout and interface.

Vital Records: Examples of Vital Records are births, fetal deaths, and changes to records such as adoptions and legitimations. In January 2011, North Carolina implemented a statewide web-based, electronic birth records system. Plans are under development for web-based, electronic fetal death and death symptoms. The CDC's National Center for Health Statistics and National Associations of Public Health Statistics and Information Systems are developing standards in anticipation of potential, future meaningful use criteria that would include reporting of the medical portion of the birth certification through CEHRT. Because vital records serve both as a legal registration and public health function, separate interfaces or systems must be maintained for these distinct functions. The State Center for Health Statistics is a member of NAPHSIS and is providing feedback on standards as they are developed and the timing of integration of Vital Records with the statewide HIE will be revisited after other critical public health systems are integrated, and based on readiness of Vital Records electronic systems and national standards development.

Central Cancer Registry (CCR) - The Central Cancer Registry (CCR) is the statewide, mandated cancer surveillance system. Statute requires that all health care providers that diagnose or treat cancer (i.e., hospitals, physician offices, radiation oncology centers and laboratories) report it to the CCR. About 80 percent of the cancer cases reported are from larger facilities which are approved by the American College of Surgeon's Commission on Cancer into a web-based, secure portal. The remaining 20 percent of the cases are reported from freestanding diagnostic, physicians and treatment facilities. NC DPH is capable of accepting electronic submission of Cancer Diagnosis and Treatment information to the CCR (for eligible professionals with Certified EHR only) according to the standards to meet the 2014 Edition CEHRT definition for MU Modified Stage 2 and

according to the standards required to meet the 2015 Edition CEHRT definition for MU Stage 3. Registrations for MU Stage 3 started on January 1, 2017. Eligible providers using certified EHR vendors must register for the cancer measure and then follow up by sending cancer reports for testing and validation. The CCR is the only specialized registry offered by NC DPH.

NC DPH deployed the MU Registration Portal where eligible hospitals and providers can register their intent to submit data to the state systems and which tracks these providers through their active engagement with public health.

Before the end of 2017, the State Laboratory for Public Health will initiate a project to support bi-directional exchange between eligible hospitals and providers where these providers will submit their test orders directly from their EHRs to the state laboratory and receive their test results back from the state laboratory directly into their EHRs.

NCDPH has plans to work with the NCHIEA to build out specialized registries. For example, they are currently a part of a larger workgroup facilitated by NCHICA to build a diabetes registry. Members of this workgroup in addition to DPH include local health departments, AHEC, and large healthcare organizations (Duke, UNC, Mission, Carolinas Medical Center among others). Future possible special registries include asthma and cardiovascular.

DPH HIT-related Funding

PPHF: Capacity Building Assistance for Infrastructure Enhancements to Meet Interoperability Requirements
DPH received $753,484 for this project. The purpose of this award is to assist immunization awardees improve the efficiency, effectiveness, and/or quality of immunization data practices by strengthening the immunization information technology infrastructure, and to enhance or sustain awardees' capacity to support and extend interoperability between their Immunization Information Systems (IIS) and Electronic Health Record (EHR) systems. This funding is specifically targeted to improving IIS ability to interoperate with Electronic Health Record (EHR) systems, enabling or improving the ability of immunization providers to submit data to, and to receive records and clinical decision support from IIS. The performance period was 09/01/2011 to 08/31/2013. This award allowed a one-year no cost extension which we used. Therefore, the funds extended into 2014.

Electronic Case Reporting (eCR)
The NC DPH Communicable Disease Branch has received a grant from the Council of State and Territorial Epidemiologists (CSTE), funded by the Centers for Disease Control and Prevention (CDC), to hire a business analyst/project manager for one year (July 2017 – June 2018). This analyst will to develop relationships with stakeholders across the state especially NC HealthConnex, and will assess the feasibility about what NC DPH will require in order to accept electronic case reports into NC EDSS. During Spring 2017, staff from the Communicable Disease Branch have begun attending workshops and meetings about HIE clinical notifications, sponsored by the North Carolina Healthcare Information and Communications Alliance, Inc. (NCHICA) and NC HealthConnex, with the ideal outcome of receiving eCR from member hospitals via NC HealthConnex.) The analyst will produce an electronic case reporting (eCR) implementation plan specific to North Carolina that will reflect all of the data gathered from the first year's activities, according to the best practices described in CSTE's eCR toolkit. This implementation plan will serve as the primary resource for North Carolina's eCR implementations. If funding is renewed for a second year, NC DPH will immediately begin eCR implementation with NC HealthConnex to the extent possible with the available staff.

Epidemiology and Laboratory Capacity (ELC) grant from CDC
The purpose of this grant is to protect the public health and safety of the American people by enhancing the capacity of public health agencies to effectively detect, respond to, prevent and control known and emerging (or

re-emerging) infectious diseases. This is accomplished by providing financial and technical resources to (1) strengthen epidemiologic capacity; (2) enhance laboratory capacity; (3) improve information systems; and (4) enhance collaboration among epidemiology, laboratory, and information systems components of public health departments. Project C is specifically devoted to supporting Health Information Systems Capacity.

ELC Project C funds received by DPH

- 8/1/13-7/31/14: $375,548
- 8/1/14-7/31/15: $457,667
- 8/1/15-7/31/16: $500,918
- 8/1/16-7/31/17: $478,658

B. North Carolina's "To Be" HIT Landscape Vision

NC DHHS is committed to the meaningful use of CEHRT in order to improve the quality, safety, efficiency and effectiveness of healthcare. In this section, the "To-Be" landscape for HIT is addressed with an outline of a five-year vision for major HIT activities.

B.1 Five Year Vision

North Carolina Medicaid's vision for HIT aligns with the broad vision for HIT and HIE including the NC HIEA, the state-designated entity responsible for coordinating and executing a strategy for enabling statewide HIE in North Carolina. The NC HIEA is leveraging state-level oversight and multi-agency and stakeholder leadership to continue to work toward the original vision and mission as outlined in the original NC HIE Operational Plan, whereby the statewide HIE network will provide:

> *A secure, sustainable technology infrastructure to support the real-time exchange of health information to improve medical decision-making and the coordination of care to improve health outcomes and control healthcare costs for all residents of North Carolina.*

B.2 Advancing the Objectives of HIE

A critical component of latter-stage Meaningful Use and improving health outcomes is meaningful patient data exchange. Collecting data in one's EHR is the groundwork for a healthcare provider's ability to easily access patient data across the continuum of care, and communicate efficiently with a patient's other providers to ensure an optimal care and follow-up plan. This section discusses leveraging statewide health information exchange infrastructure and a shared trust framework to support Medicaid providers, and all other providers statewide, in their pursuit of this goal.

B.2.1. Statewide HIE Governance and Organizational Approach

North Carolina's statewide HIE has gone through two major governance transitions, from its origin as a private-public partnership to part of the 501(c)3 that manages the state's Medicaid patients to a network now governed by its own state agency, the North Carolina Health Information Exchange Authority (NC HIEA). This section details summary information and milestones achieved during its earlier phases, and the current state and future plans for connecting the state's healthcare data.

2010-2012: a public-private partnership

To ensure health information would be exchanged in an accurate, secure, and timely manner, NC HIE led an effort to create a high-value HIE network and set of shared HIE services that built upon, enhanced and amplified existing capabilities and investments in HIT. Key components of North Carolina's statewide HIE landscape as of 2010 included (as initially written, in then-present tense):

- ***State of North Carolina***: North Carolina state government, including DMA and DPH, plays a critical role in the leadership, oversight, coordination, and implementation of HIE. OHIT coordinates state agencies' HIT and HIE design, development and deployment efforts.
- ***NC HIE***: NC HIE's mission is to provide a set of secure, scalable health information exchange services that promote the access, exchange and analysis of healthcare information and enables participating providers and organizations to: improve health care decision-making, management and coordination of care; improve health outcomes; and control healthcare costs. Representing a wide range of stakeholders

in a public-private partnership, NC HIE supports an open and transparent, collaborative process to develop the legal, policy and technical infrastructure to accelerate the use of HIE services.

- ***Statewide Policy Guidance***: Statewide policy guidance provides a common and consistent technical, privacy, security, and legal framework for participants in HIE and to ensure the secure, interoperable exchange of data. It includes: (1) detailed rules for privacy and security, technical interoperability, and financial obligations; (2) vendor contract requirements; (3) ongoing governance structure and participation; and (4) enforcement mechanisms.
- ***Qualified Organizations (optional)***: Qualified Organizations are entities designated by NC HIE to contract with health care providers and other entities on NC HIE's behalf to facilitate participation in the HIE Network. Qualified Organizations meet established criteria, have gone through an approval process, and have signed agreements to abide by the statewide policy guidance.
- ***End User***: A provider or other authorized user that accesses NC HIE services.

In addition to connecting directly to NC HIE, participation in the statewide HIE network and access to core and value-added services, could be accomplished through QOs. A QO was defined as a healthcare organization or aggregator of organizations capable of:

- Aggregating providers for purposes of connectivity to the statewide HIE network;
- Adherence to statewide policy guidance;
- Fulfillment of technical, legal, policy, and procedural obligations as defined by the statewide HIE; and,
- Entrance into a binding contract with the statewide HIE.

QOs might have been a variety of organizations or networks that had relationships with, or provided services to, health care providers. Examples of types of potential Qualified Organizations were:

- Provider Networks
- Consortia of providers
- FQHCs
- Health systems
- Hospitals
- Integrated delivery networks
- Provider groups
- Local public health departments or public health organizations
- RHCs
- Regional Health Information Organizations
- Private, Non-Provider Networks
- Clearinghouses
- Laboratories
- Pharmacies
- Vendors
- Payers including North Carolina Medicaid and private insurers

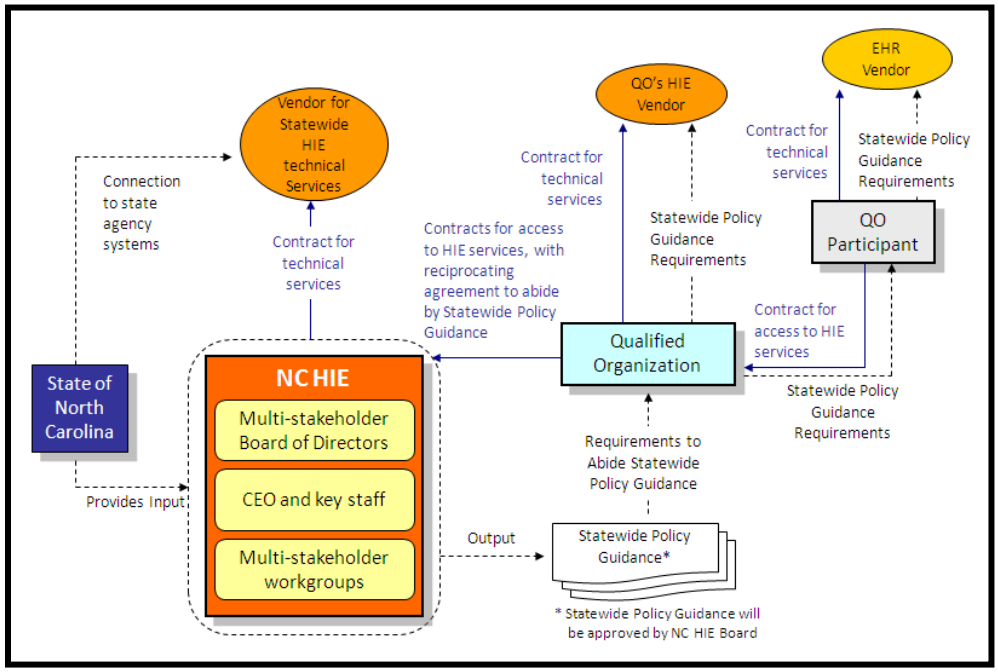


Figure 8 - Key entities and relationships in North Carolina's initial Statewide HIE Approach

One of the responsibilities of the NC HIE was to create and oversee a structured accreditation process to ensure that potential QOs were capable of fulfilling the technical and policy requirements associated with participation in the statewide HIE network.

While participation in the statewide HIE was (and is) voluntary, participants had to sign a contract or participation agreement with the NC HIE, binding it to compliance with the statewide HIE's participation agreement and NC HIE privacy and security policies. A process and policies were also established to ensure ongoing oversight of participating entities to ensure compliance with NC HIE's privacy and security framework. If a participating provider was identified as non-compliant with the statewide HIE's requirements as described in its contract, the entities' access to the HIE Network may have been terminated.

Accountability and transparency were, and are, central to ensuring the success of statewide HIE and encouraging provider participation. QOs were expected to execute similar participation agreements and contracts with their members, binding those members to requirements for all statewide HIE members.

2013–2015: a 501(c)3 subsidiary of Medicaid's care management arm

During this time, North Carolina Community Care Networks (N3CN) governed NC HIE. N3CN and NC HIE shared a mission to impact care at critical moments through intelligent data use within our health care system, and worked hand-in-hand to connect hospitals, ambulatory practices, free clinics, FQHCs and RHCs, getting actionable data into the hands of clinicians with the goal of improving patient care. Under N3CN governance, NC HIE operations focused on leveraging the existing HIE infrastructure to first support North Carolina Medicaid and safety net providers, improving the health of the state's most vulnerable populations.

Under the N3CN umbrella, NC HIE's short-term goals included:

- Refocus on core HIE value proposition of robust data exchange for the purposes of supporting communities that need or desire HIE services. These capabilities have already been delivered and will continue to be supported;
- Remove focus from value-added services in its revised business plan;
- Revise adoption policies and approach to eliminate barriers:
    - Reduce the contractual and technical complexity of participating (all current contracts will be preserved); and
    - Reduce prices through diversified funding;
- Align with N3CN's long-standing community-driven model and mission;
- Review and simplify consumer opt-out policies; and
- Be focused on a voluntary exchange of data and populations managed by N3CN.

NC HIE worked to enhance the delivery mechanisms of N3CN programs through the exchange of near-real-time clinical data for population management, care coordination and transitional care for populations served. NC HIE and N3CN aimed to work with organizations and local communities that had a need for health information exchange within their communities to collaborate rather than compete with existing community or provider HIE efforts.

In September 2015, concerns about sustainability of statewide HIE led the NC General Assembly to pass NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2015-264, which created a new state agency called The North Carolina Health Information Exchange Authority (NC HIEA) to oversee and administer North Carolina's HIE. The legislation required that as of February 1, 2018, all Medicaid providers must be connected to the HIE in order to continue to receive payments for Medicaid services provided. By June 1, 2018, all other entities that receive state funds for the provision of health services, including local management entities/managed care organizations, must also be connected. This requirement was amended in June 2017, by NC Session Law 2017-57, which requires hospitals, physicians, physician assistants, and nurse practioners that have an EHR system and rendered services paid for with Medicaid or other State-funded health care funds be connected to the HIE and begin submitting demographic and clinical data by June 1, 2018. All other providers of Medicaid and State-funded health care services must submit demographic and clinical data by June 1, 2019. LMEs/MCOs must submit encounter and claims data as appropriate by June 1, 2020.

2016 and Beyond: state oversight and administration

On February 29, 2016, the NC HIE transitioned from the North Carolina Community Care Networks (N3CN) structure to a new state agency, the NC HIEA. The vision for statewide HIE under its new governance structure is not so different from the original vision developed for the NC HIE by a broad group of stakeholders statewide in 2010. The NC HIEA aims to provide the secure infrastructure to facilitate sharing of patient data to improve care coordination and quality of care, resulting in better health outcomes statewide. The strategy under new governance also has much in common with the strategy under N3CN—to focus first on connecting the state-insured, Medicaid, and other vulnerable populations. What distinguishes the NC HIEA and its strategy from the HIE's previous incarnations is a legislated mandate for data sharing by all provider facilities that receive Medicaid or other state funds for the provision of health services and state funding for operational ramp up, making the connection and initial service available at no cost to its participants. The state's plan is to gradually transition the operational HIE network to be 100% receipt-supported, and leverage robust, meaningful analytics to inform better care.

Throughout much of 2016, the NC HIEA's approach was two-pronged: 1) work to maintain uninterrupted service and optimize the user experience for current HIE participants, while continuing to build and test in-progress value-added features (such as public health interfaces); and 2) establish new guidelines, agreements, workgroups, and

an Advisory Board of key stakeholders and provider representatives to inform its long-term strategy. The NC HIEA also rebranded the statewide HIE network from NC HIE to NC HealthConnex and developed a comprehensive communication plan to build provider and stakeholder trust in the new governing organization. To deliver expediently on these short-term goals, the NC HIEA leveraged existing relationships and contractual mechanisms within its parent agency, the NC Department of Information Technology (NC DIT), to partner with SAS Institute for technology services and support, and Eckel and Vaughan for its strategic communications.

The initial NC HIEA and SAS approach to building a robust HIE to serve NC is as follows:

- Emphasize bi-directional *conversations* and documents that are conformant to IHE (Integrating the Healthcare Enterprise) standards, and maximize the use of Consolidated Clinical Document Architecture (CCDA)/Continuity of Care Documents (CCD) wherever possible;
- Minimize impact on existing provider workflows by encouraging direct integration to participant EHRs as the *primary approach* for integrating participants into NC HealthConnex;
- Focus on value and thoughtful outreach to participants, showing them how NC HealthConnex can deliver value to their business operations and help them solve health care problems;
- Increase output and quality of the onboarding process for participants by focusing on achieving economies of scale and meaningful data. Leverage multi-tenant connections (where one connection equates to multiple providers, connection to other HIEs, etc.) and target outreach to large health systems in geographic regions with high volume of Medicaid patients;
- Work with the existing HIE technology provider to improve existing workflow, offer new value-added features, and tune the existing components of NC HealthConnex to perform at their utmost potential; and
- Build the foundation for long-term sustainability by designing and prototyping analytics to support Medicaid reform that can provide direct visibility into population health across various cohorts of the state-funded patient population.

Figure 9 below is an update to **Figure 8** above, and depicts the relationships between state agencies, IT vendors and health care providers that make up the statewide HIE approach under the NC HIEA as of 2017.

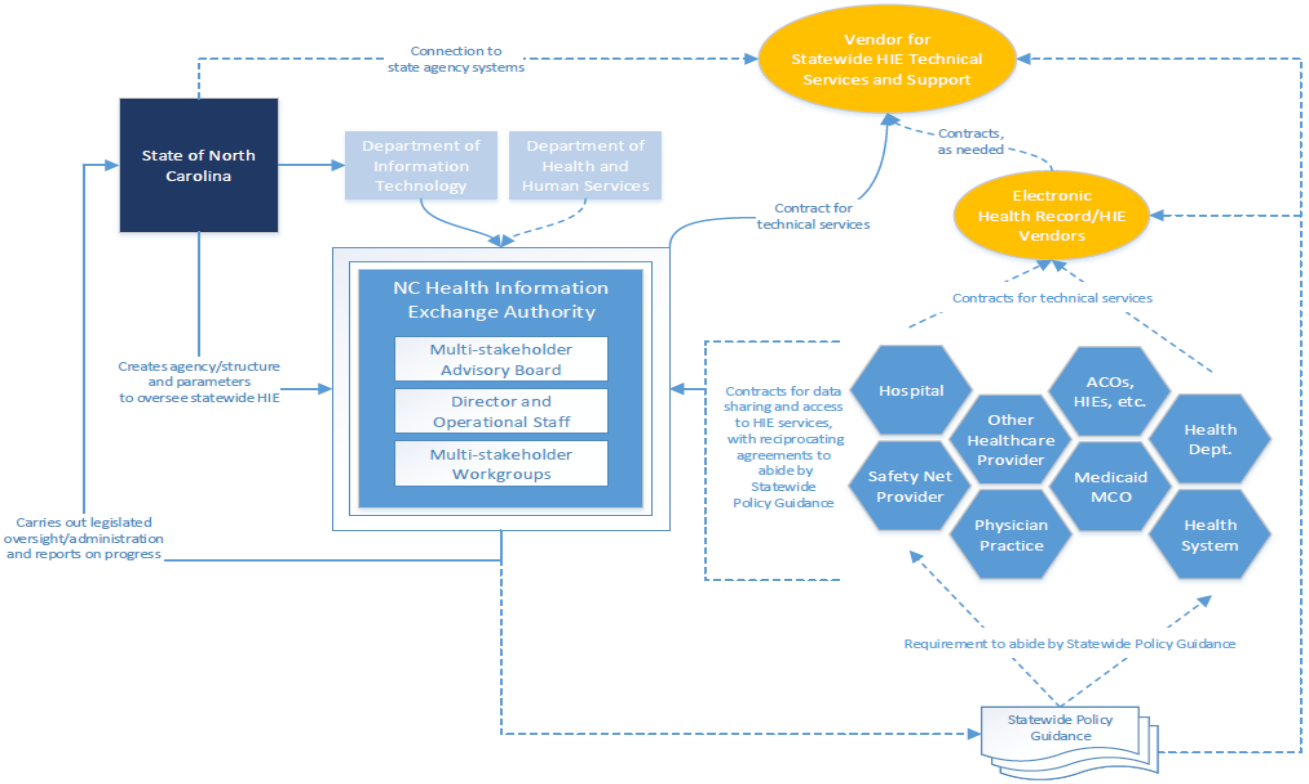


Figure 9 - Key entities and relationships in North Carolina's Statewide HIE Approach, 2017

While the initial organizational focus under the NC HIEA is on Medicaid provider onboarding, the NC HIEA coordinates tightly with NC DHHS and NC DIT, and is engaged with various leadership initiatives around health care reform in North Carolina, including representation on the North Carolina Institute of Medicine's Task Forces on Health Care Analytics and an All-Payers Claims Database.

B.2.2 Statewide HIE Technical Approach

North Carolina's statewide HIE technical infrastructure framework has consisted of three categories of services: core, value-added, and support.

Core Services

Core Services support connectivity and data transport between multiple entities and systems. The goal is to provide a lightweight and flexible infrastructure and serve as gateway to access Value-Added Features. Core Services create a foundation to exchange health information across organizational boundaries, such that two entities can:

- Identify and locate each other in a manner they both trust;
- Reconcile the identity of the individual patient to whom the information pertains;
- Exchange information in a secure manner that supports both authorization decisions and the appropriate logging of transactions; and,
- Measure and monitor the system for reliability, performance and service levels.

NC HealthConnex core HIE services consist of the following components.

1. ***Security Services***: Multiple functional processes that ensure only authorized users access system or service resources. Processes adhere to state and federal privacy and security standards. Access begins with a secure Web interface that conforms to security design standards. A consistent audit trail is established across components.
    - Provider Directory: Includes services for locating providers by facility location and unique identifier.
    - Facilities Index: Index of facilities that are connected and submit data to NC HealthConnex.
2. ***DIRECT Secure Message Routing***: Enables participating providers to securely exchange key clinical information between their EHR systems (e.g., accept and route continuity of care documents (CCDs) between connected providers).
3. ***Identity Management and Authentication***: Authentication is frequently handled through digital certificates that prove to the HIE that the systems are trusted sources.
4. ***Transaction Logging***: Maintains a transaction log that can facilitate audit activities. The transaction log will track the origination and destination of an information transaction and verify that the transaction was completed.
5. ***Consent Management***: Facilitates consent policies and patient preferences. NC HealthConnex supports the state's Opt-Out consent model. NC HealthConnex does not accept specially-protected data according to state and federal law (e.g. 42 C.F.R Part 2).

6. ***Transformation Service***: Capability to provide transformation for certain data elements to comply with the NC HealthConnex data target standard (e.g., race, language, gender), and parse and validate various document formats (e.g., C-CDA).
   Enterprise Master Patient Index/Record Locator Service: The service provides two capabilities:
   - Enables requesting a list of a patient's clinical documents, either via a demographic attribute query or a direct index lookup.
   - Enables requesting one or more of the documents listed from a query be transferred to the requester's system.
7. ***eHealth Exchange (formerly known as NwHIN Exchange)***: Provides for a single, universal implementation of the eHealth Exchange gateway available as a service for authorized users and entities.
8. ***NC HIE Clinical Portal:*** Provides for a consolidated, longitudinal, statewide view of a patient record, available to authorized users and entities.

In addition to these infrastructural components, NC HIE's initial deployment of core services included: (1) normalization of laboratory results; (2) transmission of CCD among participating entities; and (3) deployment of services in support of secure messaging using the Direct implementation specification.

Value-Added Services/Features

Accessible via core services, NC HealthConnex value-added features (formerly called services) serve as the tools and applications that allow end users the functionality to improve safety, efficiency, quality, and effectiveness of care. In developing its initial RFP for HIE services in 2010, the former NC HIE conducted a thorough and rigorous assessment of candidate value-added services across the dimensions of cost, feasibility, value to stakeholder groups, applicability to Meaningful Use, and appropriateness of delivery at the state level.

Based on the results of this 2010 assessment, NC HIE identified and prioritized the following value-added services/features (updated to reflect current status as of 2017 in NC HealthConnex):

- NC Immunization Registry – live and available as of January 2017
- State Lab Reporting – a connection to the State Lab of Public Health is on the future roadmap for NC HealthConnex; electronic reporting of reportable labs from hospitals to the NC DPH is in its final phase of testing by the NC DPH as of May 2017, due to go live in early fall 2017
- Communicable Disease Reporting to the NC Division of Public Health – project on hold as of May 2017 per NC DPH readiness
- Medication Management module through CCNC's Pharmacy Home module – module enhanced at CCNC but not transferred to the NC HIEA in 2016
- Lab orders and results – the NC HIEA is in contract negotiations with LabCorp and Quest to establish results delivery to the HIE as of May 2017; these two companies share the NC lab market with the State Lab of Public Health and hospital laboratories

The following additional value-added features to address market demands and support Meaningful Use are in development as of May 2017:

- State-level disease registries – diabetes registry is the first in the series, due by end of 2017
- Clinical notifications direct to provider EHRs – the NC HIEA is working with UNC Health Care and other stakeholders on a solution outside of the NC HealthConnex Clinical Portal, and which would be delivered directly to (and available to providers via) their EHR; expected to be broadly available by end of 2017

- Integration with the Controlled Substances Reporting System – requirement per NC Session Law 2015-241 Section 12.F.16.(f)(1); projected for 2018

Supporting Services

Supporting services include the functions needed to maintain the technical operations and include:

- *Systems Environments*: Ability to maintain appropriate environments for development, testing, training, and production.
- *Hosting Services*: Technical infrastructure and services needed to run, maintain, and support service delivery.
- *Training*: Training of end users and administrators within NC HealthConnex.
- *Help Desk*: Operations support and maintenance.

The technical framework of NC HealthConnex has changed little since the inception of the statewide HIE network in 2012. **Figure 10** below depicts the NC HealthConnex architecture and data flow with participating entities as of May 2017.

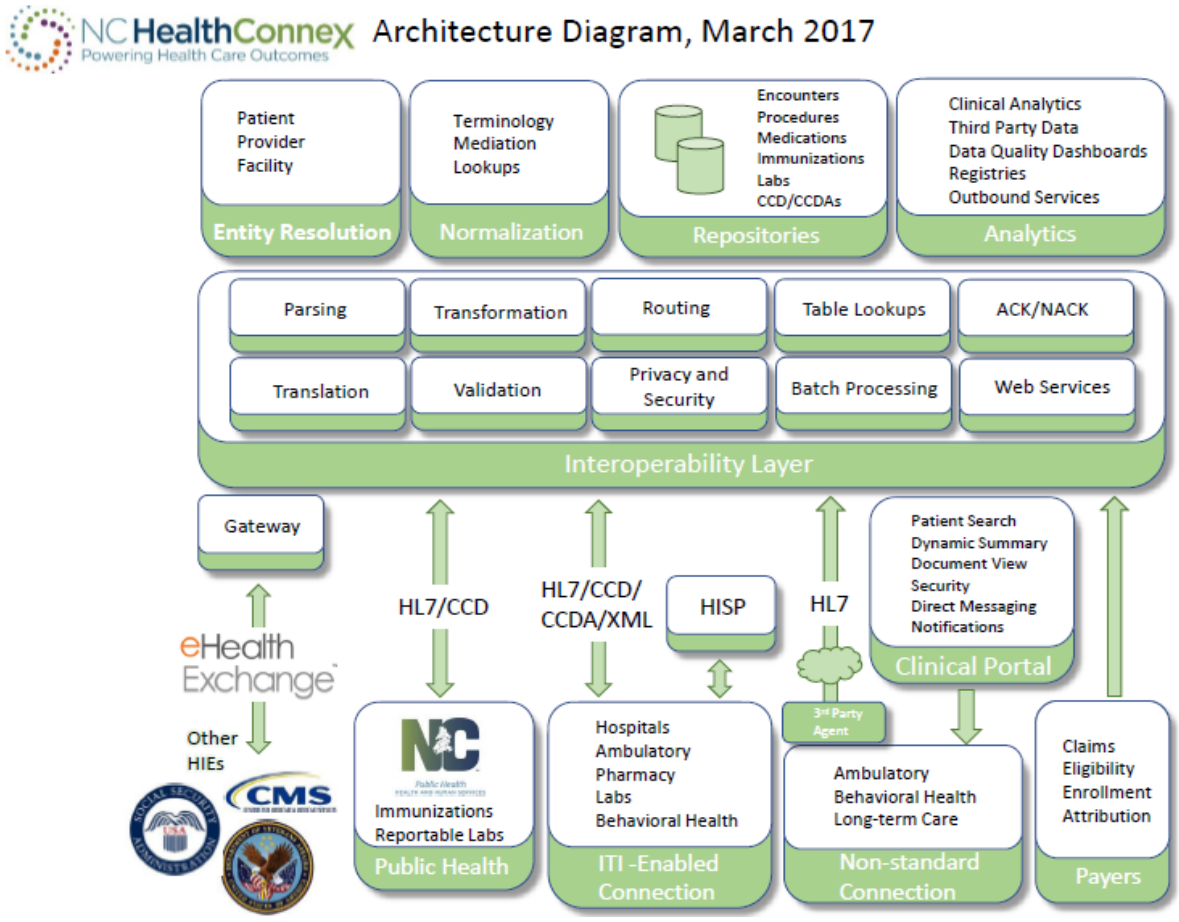


Figure 10 - Illustration of NC HealthConnex data architecture and relationships with other entities

B.2.3 Strategy for Statewide HIE under the NC Health Information Exchange Authority

Since its inception, the statewide HIE network encountered many barriers to connecting the key players in the healthcare community, including high integration costs, coordinating with the upgrade or adoption of each organization's own EHR system, and the constraints on internal resources that these projects create. In addition, health systems in North Carolina have continued to increase in number, size and scope so that an increasing percentage of care delivery is now being delivered through these systems. These challenges have required the HIE's different governance structures to consider alternative approaches and reassess strategies for accelerating statewide adoption of HIE. The map below (**Figure 11**) illustrates key health systems at play in North Carolina, including three existing regional health information organizations (RHIOs), as of 2017.

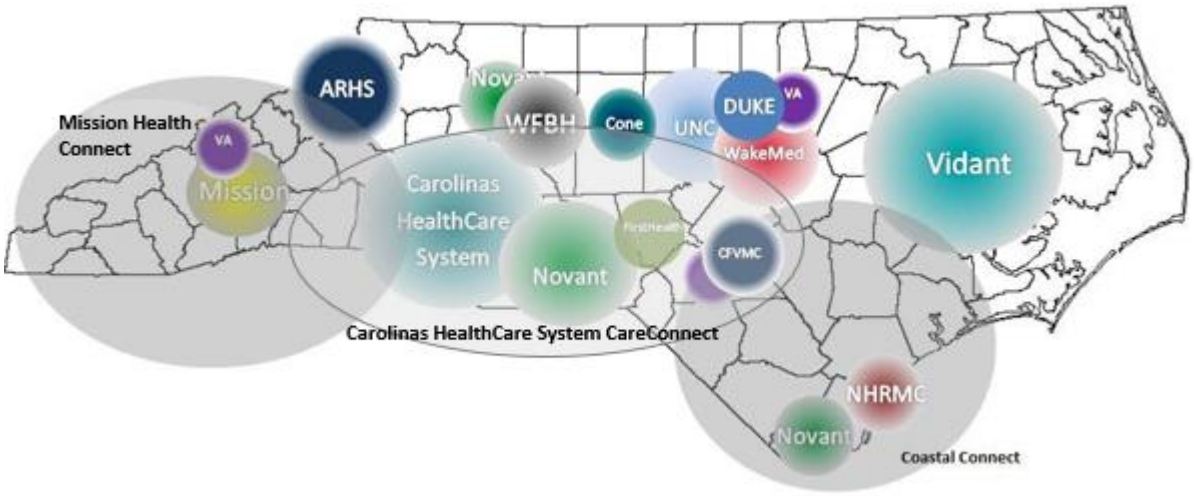


Figure 11 - Key Health Systems and Regional Health Information Organizations in NC

As noted in *Section B.2.1. Statewide HIE Governance and Organizational Approach*, the near-term strategy for the statewide HIE network, now called NC HealthConnex, is similar to the approach while under N3CN governance in 2013-2015 in that the initial focus remains connecting providers that serve state-insured populations, though the main driver and differentiating advantage for 2016 forward is the 2015 state law requiring participation in NC HealthConnex by all NC health care providers receiving Medicaid or other state funds for provision of services by dates 2018 (see NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2015-264). The aggressive deadlines set forth in the law are finally moving the needle with provider engagement and the NC health care market, and demanding the NC HIEA's full attention be placed on provider onboarding efforts, making the short-term strategy limited and clear.

The NC HIEA will remain focused on onboarding providers serving the state-insured population during 2017-2019, while simultaneously optimizing existing HIE features and completing the build of in-progress value-added features, including:

- Enhancing clinical notifications delivery, including provision of notifications back to Participants directly and accessible via the Participant EHR (not just via the HIE Clinical Portal) by end of 2017;
- Completing the diabetes disease registry by end of 2017, and subsequent registries in 2018-2019;
- Completing the testing of the first Electronic Lab Reporting functionality to NC DPH, and rolling out to hospitals statewide in mid-2017; and
- Continuing an accelerated, coordinated immunization registry onboarding effort with NC DPH and their list of registered providers.

The five-year strategy is still in progress, though the NC HIEA expects that 2019-2021 will include continued onboarding efforts, optimization of analytic capabilities for NC DHHS/DMA (and possibly health care providers and other payers), and HIE access for payers and patients.

2017-2019 – Onboarding Providers and Organizations Serving the State-Insured Population

Over the next two years, the NC HIEA will seek to integrate the state's large health care systems, technologically capable state-owned and acute care hospitals, and all providers of health care services for which Medicaid, State Health Plan, or other state funds are received. These connections represent over 90% of the state's health care providers, and are expected to cover nearly all of the state's ten million lives. In instances where the Participant is willing, the NC HIEA will accept Participation Agreements from organizations serving patients not included in the state-insured population, though these integrations may be scheduled for later implementation.

Figure 12 below represents the major organizations/facilities/provider groups that the NC HIEA is targeting for integration through 2018, in addition to pharmacies, laboratories, and other providers subject to connect under state law.

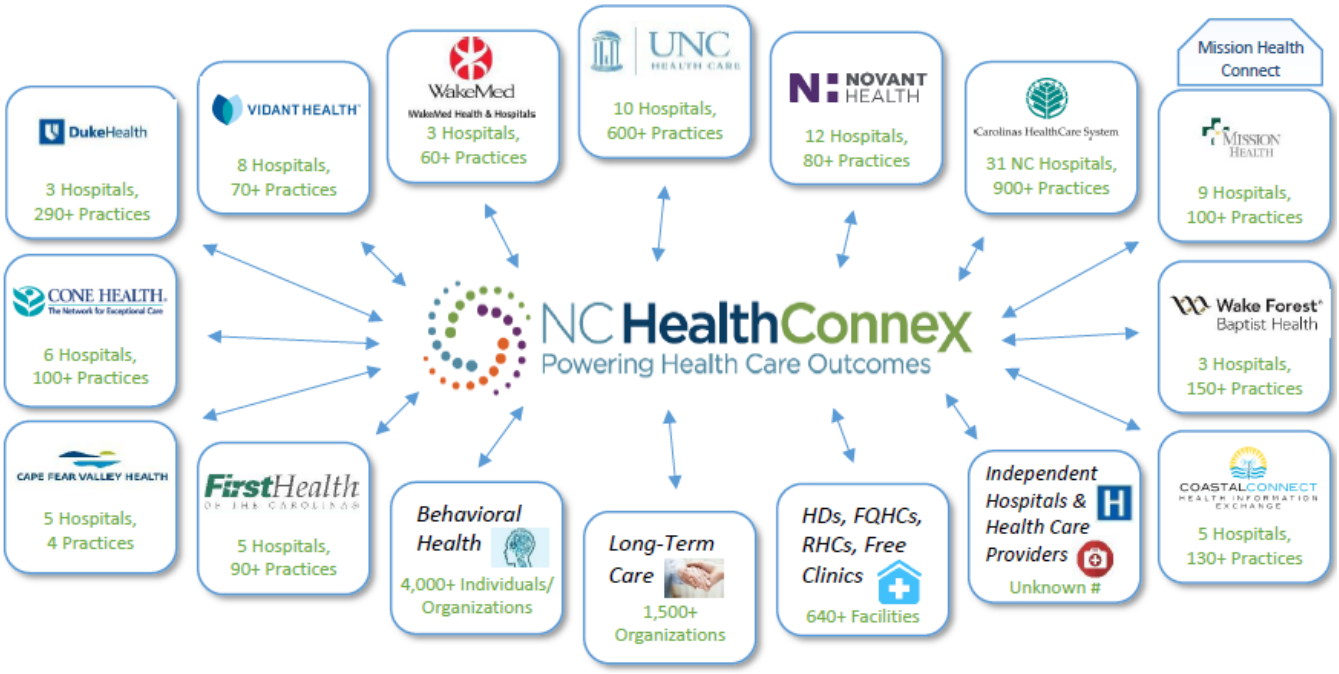


Figure 12 - Statewide Connection Strategy for NC HealthConnex, 2017

Note: The NC HIEA calculated the number of hospitals and practices in each system based on information from each organization's website, and/or as received from the entity directly.

Previously, NC HIE had a strategy to first create a Medicaid/Safety Net HIE, then connect other provider types in a subsequent "community building" phase. Because all provider types that receive state funds of any kind for provision of health care services are required by law to participate with NC HealthConnex by dates in 2018, the NC HIEA's strategy must be to simultaneously onboard hospitals, primary care providers, health departments, rural health organizations and clinics, specialists, behavioral health providers, substance abuse treatment providers, long-term care providers, skilled nursing facilities, home health providers, correctional health

providers, pharmacies, laboratories, emergency medical service providers, public health providers, and other types of providers that fall under the state mandate, together, as efficiently and expeditiously as possible.

Having ADT and CCD information available through NC HealthConnex represents many immediate benefits to participating providers, particularly as the participant base and data repository grow. These benefits include:

- Increase efficiency and decision-making by enabling access to more complete patient information at the point of care;
- Prevent unnecessary hospital readmissions by enabling electronic care transitions and continuity of care after discharge;
- Ease physician workflow requirements with automated reporting to NCIR;
- Reduce adverse drug events resulting from drug interactions and allergies by providing improved access to medication and allergy history;
- Support Meaningful Use requirements;
- Create efficiencies related to sophisticated decision support;
- Communicate directly with other providers through secure messaging;
- Help to provide a patient-centered medical practice environment;
- Provide improved care coordination among different providers;
- Provide quicker access to patient clinical results resulting in decreased duplicate medical testing;
- Result in more efficient patient care by providing a wider range of access to patient histories; and
- Enable more comprehensive care management for chronic disease populations.

2019-2021 – Driving Value Through Statewide Interoperability and Analytics

The NC HIEA anticipates onboarding the majority of the state's health care providers by 2019, but expects onboarding efforts to continue for many years. However, after the surge of onboarding slated for 2018-2019 to help providers in meeting their obligations under NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2017-57, the NC HIEA expects some focus and resources to shift toward three efforts:

1) Connecting health care payers, easing their administrative processes;
2) Enabling patient access to a consolidated statewide health care record, likely through an API; and,
3) Driving value for health care providers, the state, and other health care payers through analytics of available statewide health care data.

One of the benefits of leveraging the existing NC Government Data Analytics Center (GDAC)-SAS Institute partnership for NC HealthConnex is the knowledge and experience SAS brings to bear in advanced analytics for business administration. Under the aforementioned law, the NC HIEA is directed to build an HIE data analytics warehouse that will support Medicaid and State Health Plan administration, and may also support additional analytic use cases for providers and payers.

While currently supported entirely by state-appropriated funds, and being built as a figurative "public utility" for health care providers in North Carolina, the HIE is also planning for future sustainability. An NC HealthConnex Sustainability Plan is slated for 2017, and will detail multiple pathways to becoming 100% receipt-supported (not dependent on state appropriations).

This section will be updated annually with additional details on plans for these and other initiatives and value-added features/functionality.

B.2.4 Risks and Mitigation Strategies

In previous versions of this SMHP (2010-2016), this section has focused mainly on the risks involved in failing to complete HIE core services development, and the possibility of misalignment of the HIE's core services with current/future Meaningful Use criteria. NC HealthConnex core services development is complete as of 2012, and its core offering is very much aligned with several Meaningful Use objectives per *Section B.2.6 Link to Meaningful Use Strategy*. As of 2017, the risks to the HIE's ability to onboard Medicaid Participants, the subsequent value to Medicaid providers and their ability to meet Meaningful Use, and the HIE's overall success are quite different. The risks and mitigation strategies for the challenges before the NC HIEA from 2017-2019 are as follows in the **Table 4** below.

Description of Risk	Probability	Impact	Prevention/Mitigation Strategy
Medicaid providers do not sign Participation Agreements early enough ahead of connection deadlines to achieve timely integration	Moderate	High	The NC HIEA performs statewide outreach through provider and advocacy organizations, and will increase these efforts jointly with DMA in 2017-2018 to educate Medicaid providers on the connection requirement and its legal prerequisite, signing the DURSA-based NC HIEA Participant Agreement. The NC HIEA holds regular "How to Connect" calls/webex to explain and answer questions on the Participation Agreement and the anticipated connection timeline, and has educated key stakeholders and REC practice support personnel in these areas. DMA's contract with the NC HIEA will tie payments for onboarding Medicaid providers to completed, live connections.
Insufficient technical capacity to onboard all signed Participants subject to connect by dates in 2018 as specified by state law	Moderate	High	In preparation for accelerated Medicaid provider onboarding in 2017-2019, the HIE's technical vendor, SAS Institute, has: 1) nearly doubled the size of its internal team to 13 staff, and continues to hire; and 2) broadened its network of experienced integration subcontractors to five companies, whose resources may be incrementally added to scale up integration efforts as demand (i.e., the signed participant base) increases. The NC HIEA has also recommended adjustments to the law as currently written to provide more time for certain provider types and based upon technological capability.

Description of Risk	Probability	Impact	Prevention/Mitigation Strategy
Time and resource constraints (and competition with other initiatives) of the Participant and/or EHR vendor	High	Moderate	The NC HIEA performs statewide outreach through provider and advocacy organizations, and will increase these efforts jointly with NC DMA in 2017, to make clear: 1) the connection deadlines set forth in NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2017-57, and 2) the process to connect, including time and resource requirements of the provider and EHR vendor. Once a Participant signs, the technical kick-off packet and call/webex set forth Participant and vendor expectations and timelines for connection to NC HealthConnex, and provide a forum for all parties to commit to a project timeline for integration. The NC HIEA also works directly to engage and educate EHR vendors on the requirement and steps required to connect on behalf of their Medicaid-serving provider clients, and encourages and facilitates joint communication efforts to providers through EHR vendors. After each vendor completes the initial integration process, the NC HIEA and SAS leverage those vendor relationships to expedite subsequent Participant integrations.
HIE sustainability if state appropriations for HIE operational support do not continue past 2019	Low	Low	The NC HIEA is developing a Sustainability Plan that explores sustainability paths apart from or in addition to state funding, including fees for health plan Participants (payers), fees for use of analytics or value-added features, a state tax for consumer access to a future statewide personal health record feature, and education of NC lawmakers on the value of a statewide HIE network as a publicly-funded utility.

Table 4 - HIE Risk Analysis

As noted in previous SMHP versions, DMA will manage risk through direct engagement with the NC HIEA and through rigorous oversight and monitoring activities. DMA's contract with the NC HIEA for the Medicaid onboarding effort described in the NC HIE I-APD Version 1.0 will include a detailed statement of work with funding tied to quarterly implementation milestones. The NC HIEA will be required to provide quarterly updates on

technical developments, the number of Participants (by type) who have access to core HIE services, and the known volume of utilization.

In addition, as part of its obligations to oversee initial funding from ONC's State HIE Cooperative Agreement, the former HIE governance body, NC HIE, developed a risk mitigation strategy built on four principles: sharing risks, reducing the size of activities, simplifying solutions and operations, and leveraging relationships. The organization approached risk management through three strategic domains: Resource, Delivery, and Market. These strategies are depicted in **Figure 13** below, and remain in play years later under the NC HIEA in 2017.

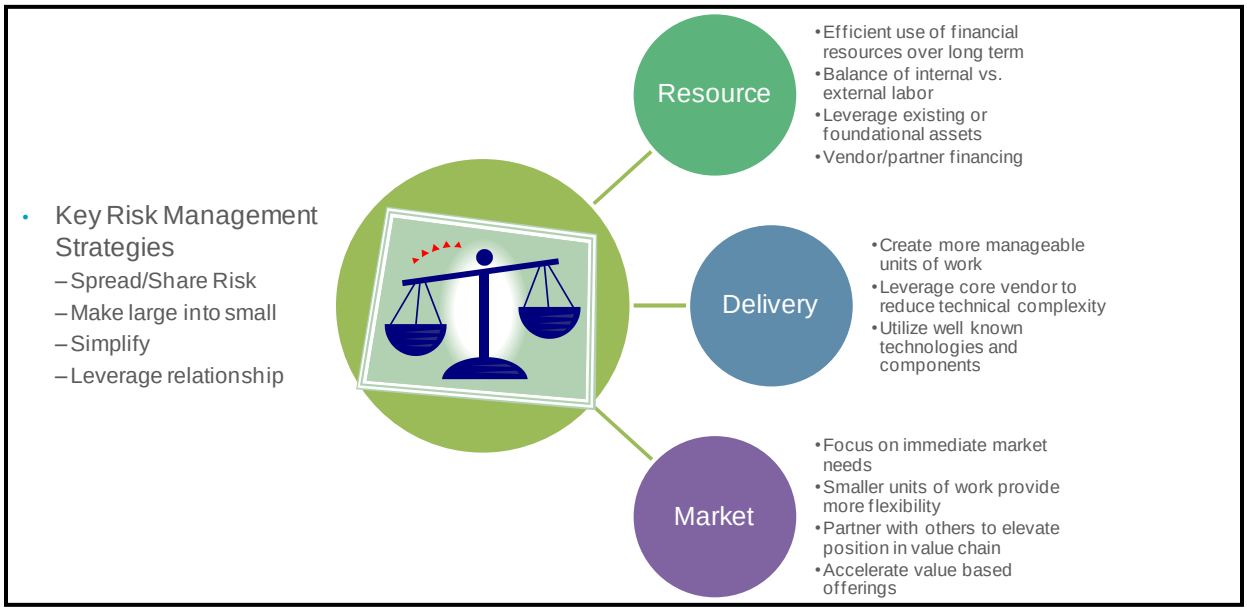


Figure 13 - HIE Risk Management Strategies

B.2.5 Annual Benchmarks and Performance Goals

For 2017-2019, the NC HIE's goals for NC HealthConnex are largely related to onboarding providers that receive state funds for the provision of health care services, at the direction of the NC General Assembly per NC Session Law 2015-241 Section 12A.5, as amended by NC Session Law 2017-57. These are as followed in **Table 5** below. These goals and benchmarks will be updated and expanded annually from 2017-2019 to include additional initiatives, usage, and other metrics.

Performance Goal	Metric	2016 Baseline	2017 Goal	2018 Goal	2019 Goal
Expand connectivity to NC HealthConnex core services	Total # of facilities	835	2,000	5,000	7,500
	Total # of hospitals	22	50	110	120

Performance Goal	Metric	2016 Baseline	2017 Goal	2018 Goal	2019 Goal
	Total # of health departments	23	50	85 (all)	85 (all)
Expand patient and provider base within NC HealthConnex	Total # of unique providers with contributed patient records in NC HealthConnex	19,744 (April 2017 actual)	50,000	TBD	TBD
	Total # of unique patients with records in NC HealthConnex	3.5 million	6 million	8 million	10 million

Table 5 - Annual Benchmarks and Performance Goals for the Statewide HIE Core Services, 2017-2019

B.2.6 Link to Meaningful Use Strategy

In October 2010, NC HIE's Clinical and Technical Operations Workgroup evaluated the ability for NC HIE and the private market to support providers' ability to meet current and anticipated requirements of meaningful use. **Table 6** below shows this initial crosswalk and whether the HIE achieved each MU-related goal.

MU Stage 1 Objectives		MU Set	Role of NC HIE/NC HealthConnex's Core Services	NC HIE/NC HealthConnex met goal
Eligible Professionals	**Eligible Hospitals**	**Core/Menu**		
Generate and transmit **permissible prescriptions electronically (eRx)**	*Not applicable*	Core	Not applicable; functionality addressed via EHR. HIE services not sponsored or hosted by NC HIE.	n/a
Incorporate **clinical lab-test** results into EHR as structured data	Incorporate **clinical lab-test** results into EHR as structured data	Menu	HIE's deployment of core services will include laboratory normalization functions that will facilitate the interoperable	Yes. Normalization delivered through core services. Contracts with State Lab and two commercial labs (Solstas and

MU Stage 1 Objectives		MU Set	Role of NC HIE/NC HealthConnex's Core Services	NC HIE/NC HealthConnex met goal
Eligible Professionals	**Eligible Hospitals**	**Core/Menu**		
			exchange of clinical lab-test results.	LabCorp) in place under N3CN governance; NC HIEA working to secure contracts with LabCorp, Quest, and the State Lab.
Report ambulatory quality measures to CMS or the states	**Report hospital quality measures** to CMS or the states	Core	To be addressed by service provisioned by N3CN.	Now under state governance, there are no plans as of 2017 for NC HealthConnex to support e-CQM reporting.
Capability to exchange **key clinical information** (for example, problem list, medication list, allergies, diagnostic test results), among providers of care and patient authorized entities electronically	Capability to exchange key clinical information (for example, discharge summary, procedures, problem list, medication list, allergies, diagnostic test results), among providers of care and patient authorized entities electronically	Core	Core Services will enable authorized users on the statewide HIE network to search for, transmit, and receive summary care records.	Yes. Delivered through the deployment of core services.

MU Stage 1 Objectives		MU Set	Role of NC HIE/NC HealthConnex's Core Services	NC HIE/NC HealthConnex met goal
Eligible Professionals	**Eligible Hospitals**	**Core/Menu**		
The EP, EH or CAH who transitions their patient to another setting of care or provider of care or refers their patient to another provider of care should **provide summary of care record for each transition of care or referral**	The EP, EH or CAH who transitions their patient to another setting of care or provider of care or refers their patient to another provider of care should **provide summary of care record for each transition of care or referral**	Menu	Core Services will enable authorized users on the statewide HIE network to search for, transmit, and receive summary care records.	Yes. Delivered through the deployment of core services.
Capability to **submit electronic data to immunization registries or Immunization Information Systems** and actual submission in accordance with applicable law and practice	Capability to **submit electronic data to immunization registries or Immunization Information Systems** and actual submission in accordance with applicable law and practice	Menu	As a value-added feature, to be the conduit for a bidirectional interface between health care providers and the NC Immunization Registry (NCIR) that would enable automated vaccine reporting from the provider EHR, as well as support query of the NCIR for vaccination history and recommendations.	Yes. Live bi-directional interface with NCIR delivered as a value-added feature of NC HealthConnex, subject to provider onboarding by NC DPH Immunization Branch and the NC HIEA.
Not applicable	Capability to submit electronic data on **reportable (as required by state or local law) lab results** to public health agencies	Menu	As a value-added feature, to be the conduit for a unidirectional, automated daily batch reporting interface from HIE	No. The NC HIEA, a pilot hospital, and NC DPH are in the final stages of user acceptance testing and expect to complete this process and begin

MU Stage 1 Objectives		MU Set	Role of NC HIE/NC HealthConnex's Core Services	NC HIE/NC HealthConnex met goal
Eligible Professionals	**Eligible Hospitals**	**Core/Menu**		
	and actual submission in accordance with applicable law and practice		Participant hospitals to NC DPH.	onboarding additional hospitals in Fall 2017.
Capability to **submit electronic syndromic surveillance data** to public health agencies and actual submission in accordance with applicable law and practice	Capability to **submit electronic syndromic surveillance data** to public health agencies and actual submission in accordance with applicable law and practice	Menu	To be addressed as a value-added service/feature of the HIE.	No. Public health leadership decided to delay electronic submission to NC EDSS by eligible professionals until after the NCIR, SLPH, and Vital Records systems were fully integrated with the statewide HIE network.

Table 6 - Core HIE Services and Stage 1 Meaningful Use Criteria

As of 2017 under the NC HIEA, NC HealthConnex can support several of the Modified Stage 2 Meaningful Use measures and objectives. A crosswalk of these measures and NC HealthConnex functionality is shown in **Table 7** below. The descriptions below hold true for parallel objectives in Stage 3 of Meaningful Use (though numbered differently), and the table will be updated accordingly in the next SMHP update.

Modified Stage 2 MU Objective	Modified Stage 2 MU Measure(s)	Supporting NC HealthConnex Functionality
	• **EP Objective 5:** The EP that transitions or refers their patient to another setting of care or provider of care must— (1) use CEHRT to create a summary of care record; and (2) electronically transmit such summary to a receiving provider for more than 10 percent of transitions of care and referrals. • **EH Objective 5:**	• Direct Secure Messaging product called Web Communicate, available to all NC HealthConnex participants through the NC HealthConnex Portal or visually integrated within a provider's EHR. Web Communicate is provided through our HISP partner, Orion Health. As an Accredited DirectTrust HISP, Orion Health maintains compliance with all ONC/DirectTrust requirements.

	The eligible hospital or CAH that transitions or refers their patient to another setting of care or provider of care must— (1) use CEHRT to create a summary of care record; and (2) electronically transmit such summary to a receiving provider for more than 10 percent of transitions of care and referrals.	• Provider Directory with 11,000+ providers available through NC HealthConnex Portal and sent to NC HealthConnex participants directly for use within their EHRs (updated quarterly). • Query-based retrieval of patient records within NC HealthConnex by providers at the point of care. • Backend reporting on messages sent/delivered for MU attestation reporting/audit logging. • Note: non-eligible provider types connected to NC HealthConnex will augment the electronically available referral/ trading partners for EPs and EHs.
	• **EP Objective 8:** Measure 1: More than 50 percent of all unique patients seen by the EP during the EHR reporting period are provided timely access to view online, download, and transmit to a third party their health information subject to the EP's discretion to withhold certain information. Measure 2: For an EHR reporting period in 2017, more than 5 percent of unique patients seen by the EP during the EHR reporting period (or his or her authorized representatives) view, download or transmit to a third party their health information during the EHR reporting period. • **EH Objective 8:** Measure 1: More than 50 percent of all unique patients who are discharged from the inpatient or emergency department (POS 21 or 23) of an eligible hospital or CAH are provided timely access to view online, download and transmit to a third party their health information. • Measure 2: For an EHR reporting period in 2017, more than 5 percent of unique patients discharged from the inpatient or emergency department (POS 21 or 23) of an eligible hospital or CAH (or patient authorized representative) view,	• Back-end HISP services enable the transmit component of providing "view, download, transmit" capability to patients. HISP services are provided through our partner, Orion Health. As an Accredited DirectTrust HISP, Orion Health maintains compliance with all ONC/DirectTrust requirements.

	download or transmit to a third party their health information during the EHR reporting period.	
	• **EP Objective 9:** For an EHR reporting period in 2017, for more than 5 percent of unique patients seen by the EP during the EHR reporting period, a secure message was sent using the electronic messaging function of CEHRT to the patient (or the patient-authorized representative), or in response to a secure message sent by the patient (or the patient-authorized representative) during the EHR reporting period.	• Back-end HISP services enable the transmission of secure messages to patients. HISP services are provided through our partner, Orion Health. As an Accredited DirectTrust HISP, Orion Health maintains compliance with all ONC/DirectTrust requirements.
	• **EP Objective 10:** Measure 1: Immunization Registry Reporting: The EP is in active engagement with a public health agency to submit immunization data. Measure 2: Syndromic Surveillance Reporting: The EP is in active engagement with a public health agency to submit syndromic surveillance data. Measure 3: Specialized Registry Reporting: The EP is in active engagement to submit data to a specialized registry. • **EH Objective 9:** Measure 1: Immunization Registry Reporting: The eligible hospital or CAH is in active engagement with a public health agency to submit immunization data. Measure 2: Syndromic Surveillance Reporting: The eligible hospital or CAH is in active engagement with a public health agency to submit syndromic surveillance data. Measure 3: Specialized Registry Reporting: The eligible hospital or CAH is in active engagement to submit data to a specialized registry. Measure 4: Electronic Reportable Laboratory Result Reporting: The eligible hospital or CAH is in active engagement with a public health agency to submit	• Immunization Registry Reporting: Live bidirectional connection to the NC Immunization Registry (NCIR), allowing for automated reporting from entry into the EHR patient record directly to the NCIR, as well as query capability through the EHR or NC HealthConnex Portal to the NCIR to pull vaccination history and recommendations. • Electronic Reportable Laboratory Result Reporting: Functional connection with one hospital currently sending daily batches, in final stages of DPH user acceptance testing.

	electronic reportable laboratory (ELR) results.	

Table 7 - 2017 Modified Stage 2 Meaningful Use Objectives and Supporting NC HealthConnex Functionality

B.2.7 Clinical Quality Measures and Public Health Interfaces

As stated above, NC HIEA plans to expand the collection and analysis of quality data to include the new data as a result of MU requirements. The approach will be to create a data aggregator to accept data from providers using the CMS Physician Quality Reporting Initiative (PQRI) 2008 Registry XML standard.

In addition, I-APD funding will be used to provide an immunization interface from the NCIR to the IC to further support population management of Medicaid beneficiaries in 14 networks and 1,400 providers' offices throughout North Carolina. Funds will also provide support for interoperability of the NCIR and EHRs with a focus on the exchange of vaccination records and reducing the duplicate data entry burden on Medicaid providers. The addition of these and other public health data to a statewide service is described in *Section A.13 Interoperability Status of the State Immunization Registry & Public Health Surveillance Reporting Database*.

B.2.8 Short- and Long-Term Value Proposition

The creation and provision of statewide HIE core services will yield benefits for participants across operational, service delivery, and programmatic dimensions as outlined in **Table 8** below.

Category	Participant Benefit
Operations	• Reduced cost of operations and solutions • Leverage common services (e.g., Value-Added nationwide HIE and public health gateways) • Leverage investment in Core Services to reduce cost of connecting physicians • Access to shared applications services • Single connection and data governance model • Reduces cost of managing multiple interfaces and negotiating independent data agreements • Consolidates required data feeds across multiple state reporting requirements • Provides legal benefits to participants • Indemnification for physicians and the participants
Service Delivery	• Improve care coordination and quality across a broader community • Leverage connectivity to patient records available from other states and federal agencies via the eHealth Exchange gateway
Program	• Ability to participate in collaborative community • Ability to meet Meaningful Use and MIPS requirements related to health information exchange

Table 8 - Participant Benefits

B.3 Meeting the Goals for Adoption of Certified EHR Technologies

NC DHHS takes the following steps to accelerate adoption:

1. Early Implementation of the Medicaid EHR Incentive Program

In early 2011, NC actively invested in developing the systems necessary to administer the Medicaid EHR Incentive Program, including working with CMS and its partners on the connection of NC's Medicaid Incentive Payment System (NC-MIPS) with the Centers for Medicare & Medicaid Services' Registration & Attestation System (CMS R&A). The first EPs who successfully attested to AIU of CEHRT received payment in March 2011.

2. Partnering with the AHEC

In addition to administering the physician practice quality improvement program, NC AHEC provides individualized, onsite EHR consulting services to practices through a contract with DMA. NC Medicaid partners with the NC AHEC program to continue the adoption, use and optimization of Certified Electronic Health Record Technology (CEHRT) and further its use in supporting practice transformation toward participation in pay-for-value programs.

3. Multi-channel communication

An investment has been made in a number of different communication channels in an effort to connect with, inform, and encourage providers in their adoption of EHRs. As of June 2017, major efforts include:

- Dedicated NC Medicaid EHR Incentive Program webpage within the DHHS website, including an extensive webinar and FAQ section, at https://www2.ncdhhs.gov/dma/provider/ehr.htm;
- Dedicated NC Medicaid EHR Incentive Program helpdesk – NCMedicaid.HIT@dhhs.nc.gov;
- Contributions to the Medicaid Provider Bulletin, available at https://dma.ncdhhs.gov/providers/medicaid-bulletins;
- Articles and surveys published in partner newsletters and communications, including NCHICA, NC AHEC, and NC ORH;
- Memos e-mailed directly to the Medicaid provider community on various topics; and,
- Presentations provider groups and stakeholders as requested.

For a more complete look at the NC Medicaid EHR Incentive Program's outreach and communication activities, refer to *Section C.2 Outreach and Provider Support* of this plan.

B.4 Supporting Quality Reporting and Care Improvement Goals

While access to HIE services and widespread adoption of CEHRT are critical enablers of care improvement, providers also need the ability to collect, report and receive feedback on quality indicators in order to advance care and population health along evidence-based guidelines. Therefore, North Carolina will ensure providers have routine and timely feedback on the CMS-approved quality measures they collect and submit.

In addition, NC DHHS will expand upon its hands-on quality improvement model, the North Carolina Improving Performance in Practice (IPIP) project via the NC AHEC Program, developed in partnership with the NC Governor's Office, the NC DPH, CCNC, NCMS, the NC Academy of Family Physicians, CCME, the NC Healthcare Quality Alliance, and the major insurers in the state and other state agencies. NC IPIP is currently funded through NC AHEC funds as well as funding from philanthropic and other grant and payer organizations, and delivered through a statewide network of QICs employed by the NC AHEC Program at each of its nine regional centers. Through AHEC's partnerships, all primary care providers in NC who accept Medicaid have access to the resources of the QICs. The QICs are currently working in over 200 primary care practices across the state, providing assistance to:

- Integrate the use of the EHR into practice workflow to improve care management;
- Develop office systems within the EHR to track patients with specific chronic diseases;

- Train practice staff to use data from EHR systems to produce dynamic, electronic reports reflecting clinical performance as measured by nationally-endorsed indicators;
- Assist practices in reporting quality measures;
- Educate practices on the importance of participating in HIE;
- Build the consistent use of quality measurement and HIE into common office policies and protocols to support improvement in care with increased access to data;
- Assist practices to use resources within the EHR to help educate their patient population on the importance of preventing and/or managing chronic disease;
- Stay current on all MU/QPP MIPS criteria as it evolves over time; and,
- Provide electronic reporting to the designated public entity.

The NC AHEC Program has expanded this proven model to embody the work of the REC by putting in place the personnel, educational resources, and direct technical assistance support to successfully implement and utilize technology to improve the quality of healthcare as funding allows.

B.5 Proposed Vendor Initiatives

B.5.1 North Carolina Area Health Education Centers

With Modified Stage 2 and Stage 3 of MU, and the CMS Quality Payment Program (QPP), NC will promote the electronic exchange of health information to improve the quality and lower the cost of health care in North Carolina. It is with this goal in mind that NC will leverage NC AHEC's existing infrastructure and strong history of adult learning to continue the work done in Stage 1 and 2 MU to promote the electronic exchange of health information to improve the quality and lower the cost of health care in North Carolina.

The objectives tied to the enhanced funding for NC DMA/NC AHEC initiatives are as follows:

- Help NC physicians meet Modified Stage 2 MU, Stage 3 MU, and QPP MIPS;
- Promote Health Information Exchange;
- Promote patient engagement through use of electronic patient portals;
- Remove vendor-specific barriers to the achievement of MU and QPP MIPS; and,
- Strengthen an existing statewide project management database to improve NC's ability to deliver information rapidly and appropriately and utilize the data to drive quality improvement practices.

While NC AHEC has made tremendous strides, further assistance is needed to support these practices in meeting Modified Stage 2 and Stage 3 of Meaningful Use and QPP MIPS and tackling some of the more difficult challenges like connectivity, information sharing, and patient engagement. NC AHEC proposes to maintain up to 1.75 staff in each of the nine regional AHECs to meet the needs of these Medicaid providers to ensure the success of NC's HIT initiatives and to further promote and ensure a higher quality of care for the vulnerable patient populations they serve.

NC AHEC will further leverage its statewide reach and highly trained field staff to extend services to specialty practices. In order for medical homes to function as "medical neighborhoods", that is to achieve optimal integration of evidence based care, specialties outside of primary care need to understand medical home functionality and their relationship to the medical home entity. These specialty practices need to achieve the advanced stages of meaningful use to be fully electronically and functionally connected to the primary care practice in order to coordinate and deliver cost effective and high quality, chronic care. While most specialists participating in the program are pediatric subspecialists associated with academic health centers, there are

community based specialty practices, particularly in small and mid-size communities, that will need to achieve advanced MU independent of large health systems and who would benefit from AHEC services.

MU Modified Stage 2 includes an emphasis on patient engagement through electronic patient portals. This requirement presents a unique opportunity for all patients to be actively engaged in their healthcare. For the NC Medicaid EHR Incentive Program in particular, regular use of patient portals by parents should result in large gains in primary care engagement and adherence to preventive care recommendations.

Additionally, NC AHEC will need 2.90 FTEs in the central office to help manage and coordinate the efforts in the nine regional AHECs. These positions will coordinate, train, and inform statewide staff as MU Modified Stage 2 continues and the nuances of meeting these requirements as well as new payment models evolve. These personnel will use NC AHEC databases and mechanisms and information from NC Medicaid HIT to promote the sharing of information across the state as well as to support staff training, further professional development, and conduct quarterly milestone calls to ensure appropriate progress, identify barriers in the practices, and promote solutions to these barriers. These positions will also provide the clinical leadership necessary to develop the programs described below, analyze program effect to recommend adjustments and enhancements over time, and work with collaborative and stakeholders, including the relevant provider societies and integrated delivery systems, to disseminate successful programs.

NC AHEC will continue to employ a computer programmer to enhance and maintain the project management database. This will allow NC AHEC to track NC Medicaid beneficiaries' progress at the practice, individual consultant, regional and state levels to readily identify successes and barriers so that resources are distributed rapidly and appropriately. NC AHEC will also employ a data analyst to better analyze the data and feedback to practices and partners to affirm progression of Medicaid providers toward MU Modified Stage 2 and ensure that NC AHEC's interventions continue to improve the quality of healthcare in NC. In this system, NC AHEC seeks to couple practice level data with administrative data to gain as complete a picture of project evaluation and effect as possible.

As the state's largest provider of continuing education for healthcare professionals, NC AHEC has found that there is much to be gained from hosting collaborative network meetings for local providers to come together and share their experiences and learn from each other regarding their implementation and use of electronic health records. DMA would like to leverage this existing collaborative structure to use as an opportunity to connect with program participants and learn more about their barriers to meaningful use and to provide program information, as needed. NC AHEC will supplement the on-site support of practices with collaborative meetings for providers in each region throughout the year, where DMA may participate in the largest region's quarterly meetings. These meetings build around practice sharing to enhance achievement of MU Modified Stage 2 and use these measures to address important QI targets. Local and national expertise on these issues and other important care models will be shared.

The NC AHEC Program's experience in the statewide delivery of onsite and remote technical assistance and improvement capabilities provides a unique commodity for NC. The program stands ready to quickly disseminate technical assistance to its base of 1,319 primary care and subspecialty practices and continues to support NC in itss evolution of Health Information Exchange.

B.5.2 North Carolina Office of Rural Health (NC ORH)

In support of rural health clinics, critical access and rural hospitals, and other primary care safety net providers, ORH provides technical assistance for a number of initiatives. The Rural Health IT initiative is of critical importance to NC Medicaid and to the clinics and hospitals for which ORH provides assistance. For example, rural hospitals, as well as many statewide medical facilities that treat low income and uninsured residents, may receive assistance

through grant funds. Additionally, qualifying patients may take advantage of drug companies' free and low-cost drug programs through ORH's medication assistance program.

Not only does the Rural Health IT Initiative incentivize health care providers to upgrade their systems, but it also begins to shift the production-based paradigm to a quality-based paradigm. ORH has worked closely with the NC Division of Medical Assistance, the NC REC, and the NC HIEA to provide this assistance. However, NC ORH has not previously been staffed to meet the demand for assistance with the rural and critical access hospitals or smaller health care facilities. ORH estimates that 16 state supported Rural Health Centers, 78 additional CMS rural health clinics, 21 critical access hospitals, 12 small rural hospitals, 60 free clinics, 156 community health centers and FQHC-lookalikes, 75 health departments that provide primary care, and 25 school based health centers would potentially benefit from the additional technical assistance that could be provided by an ORH Rural Health IT Team. The Safety Net Sites map below (**Figure 14)** illustrates an approximation of North Carolina's primary care safety net providers.

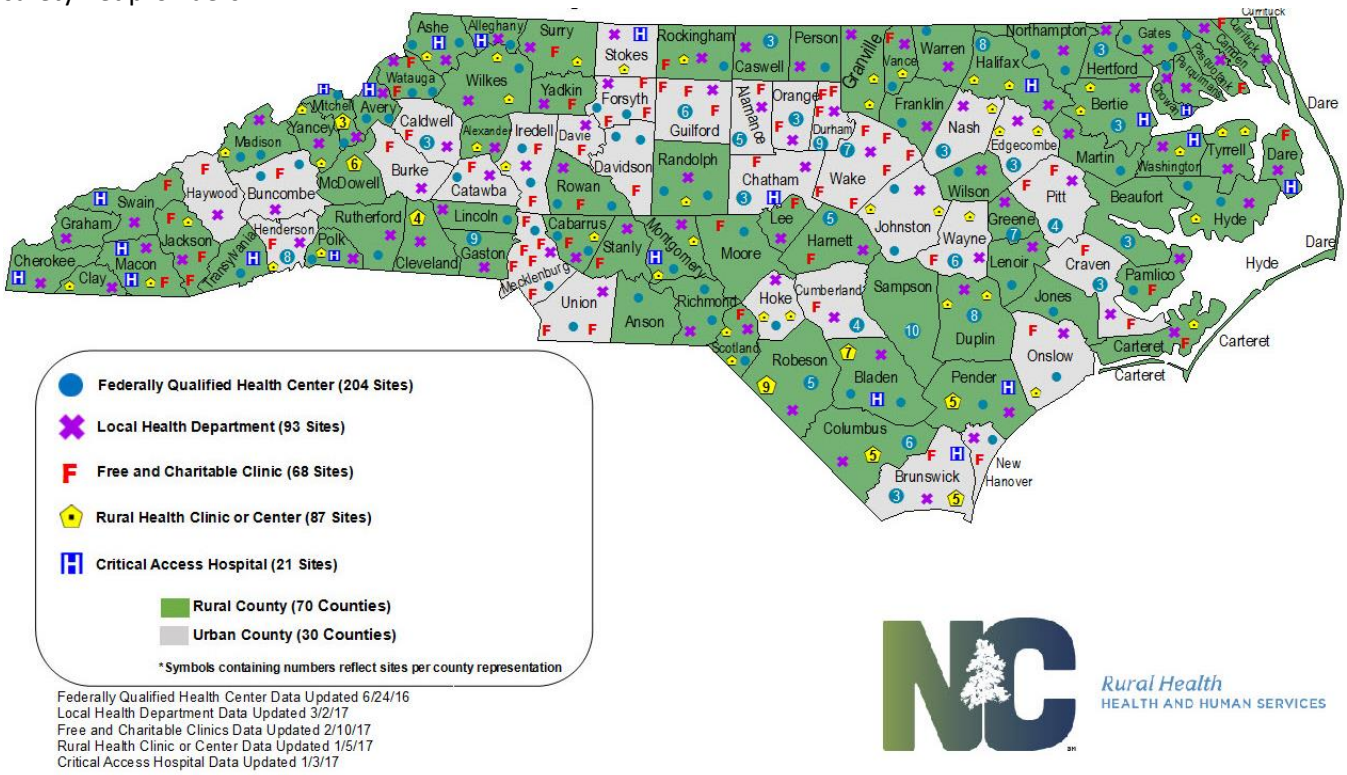


Figure 14 - Office of Rural Health Safety Net Sites SFY 2017

Following the ONC's "call to action" regarding the MU challenge in critical access and small rural hospitals, ORH has worked hand in hand with the REC to add value and leadership in realizing the ONC's MU goal for these hospitals. In addition to the RHCs and critical access and rural hospitals, ORH aims to assist any requesting safety net provider. For example, a number of the free clinics in NC expanded their scope and became "free and charitable." As a result, these clinics hired additional providers where needed and have begun to accept and bill for Medicaid, making them eligible for MU and in need of technical assistance. Several behavioral health agencies have become NHSC eligible and some have requested help with integrated primary care services, making them additional sites in need of ORH's technical assistance.

ORH has also observed the impact of Stage 1 and 2 MU on NC's health care providers to date and anticipates more aggressive quality measures in Stage 3. For those clinics and hospitals already attesting to the Medicaid EHR Incentive Program, it is imperative they prepare and begin the clinical Stage 3 process, knowing once they have begun they must continue in order comply with the initiative.

ORH is proposing the use of federal funds to expand its Health IT efforts with a Rural Health IT program manager, three professional positions, and one administrative assistant. The Rural Health IT team will require professional positions with a high level of technical expertise; exceptional communication, presentation and training skills; and the ability to establish rapport not only with the clinics and hospitals but with other participants such as NC Hospital Association (NCHA), NC Association of Free and Charitable Clinics (NCAFCC), NC Community Health Center Association (NCCHCA), Division of Medical Assistance (DMA), DHHS' Office of Health IT, NC Health IT Regional Extension Centers (REC), NC Health Information Exchange Authority (NC HIEA), and others. In November, 2016, ORH secured a commitment for two years of matching funding ($100,000) from The Duke Endowment to cover non-federal costs for implementing the Rural Health IT team. In February 2017, with assistance from the NC HIEA, ORH interviewed candidates for the Rural Health IT Program Manager position. Since March 2017, ORH has worked with DHHS Human Resources Unit and the NC Office of State Budget Management to determine an equitable compensation package for the selected candidate. However, the NC Office of State Human Resources (OSHR) recently recommended that DHHS reclassify the Rural Health IT Program Manager position to reflect skills and responsibilities which are different from the rest of the ORH management team. If reclassified, the position would have to be re-posted as a vacancy and ORH would conduct another round of interviews. DHHS is reviewing these recommendations and our options for expediting the process.

B.5.3 Medicaid Evidence-based Decision Project (MED Project) and the Drug Effectiveness Review Project (DERP)

The Program team has established a Clinical Quality and Data Workgroup, which is considering how data captured during MU can be effectively used to determine areas of potential improvement relative to Medicaid clinical coverage. The use of these MU data to study and develop evidence-based coverage offers great opportunity, and dovetails with the federal meaningful use of Meaningful Use, or MU^2, initiative. Evidence-based standards and measures provide a mechanism for Medicaid to select the best treatments for improving health outcomes. This ability to exercise sound decision-making provides policymakers an unbiased analysis of complex issues.

To supplement the evidence-based data available through MU measure reporting, DMA would like to participate in two initiatives coordinated by the Oregon Health Sciences University's Center for Evidence-based Policy. These two projects are the Medicaid Evidence-based Decision Project (MED Project) and the Drug Effectiveness Review Project (DERP).

The **MED Project** is a collaboration of 11 state agencies, primarily Medicaid, with a mission to provide policy-makers the tools and resources to make evidence-based decisions. As a member of MED, North Carolina will receive the following benefits:

- **Evidence and Policy Reports** - North Carolina will have access to proprietary reports on a variety of policy and evidence issues. The MED project produces evidence-based answers to well-defined questions. These reports utilize robust research strategies to appropriately cover clinical, policy and financial issues.
  Recent report topics include: Cost Effectiveness of Bariatric Surgery for Adults; Cost Effectiveness of Palivizumab (Synagis®); Cost Impacts of Primary Care Diabetes Case Management; Essential Health Benefits - Substance Use Disorders Coverage; Strategies to Reduce Emergency Room Utilization for Non-Emergent Visits; and Summary of AHRQ ADHD Comparative Effectiveness Review. In addition to these

recent reports, North Carolina will have immediate access to a full archive of all reports produced by MED since its creation.

- **Rapid Response to State-Specific Needs** - North Carolina will also have access to MED's Participant Request service, which allows members to contact the MED project staff at any time and request a brief review of the evidence on an emerging state issue. The MED team will quickly search for evidence and produce a report on the topic. Participant requests can take a variety of forms, including an expert librarian search, a brief evidence summary, a policy brief, or a review of information provided by a vendor. Recent participant requests include: Definitions and Policies for Cosmetic and Reconstructive Surgeries; Epidural Steroid Injections of the Cervical and Lumbar Spine; Health and Behavior Assessment and Intervention Codes Policy Analysis; Prenatal Genetic Testing; Robotic-assisted Hysterectomy in Obese Women; Spinal Injections for Chronic Low Back Pain - Policy Summary and Substance Abuse Testing in Outpatient Treatment Programs.
- **Collaboration and Dissemination of Best Practices -** The MED Project is strengthened by the collective knowledge and expertise of its members. In addition to twice-monthly conference calls, participants meet twice a year at in-person meetings. These unique forums allow the MED project participants and other key staff to share ideas and collaboratively address common issues.
  In addition to its regular meetings, MED convenes Working Groups to address areas of special interest to states. These groups address current challenges on priority issues through review of evidence and policies as well as sharing current state practices. Currently MED has three working groups: 1) Oral Health, 2) Behavioral Health and 3) Durable Medical Equipment.
- **Information Resources -** North Carolina will have access to a number of proprietary information sources including:
    - Web-based Information Clearinghouse - The Information Clearinghouse compiles MED reports, federal, state and private payer policies and news and discussion forums, in a single location. It is available to participants and their agency staff through a secure website.
    - Access to Hayes Databases **-** Participants also have direct access through the MED Clearinghouse website to Hayes, a nationally recognized vendor specializing in off-the-shelf evidence products.
    - Weekly Updates – Weekly electronic newsletters that provide relevant, timely information and evidence to participants. MED staff scans a wide breadth of journals and publications and develops concise analyses for busy policy-makers.

The **DERP Project** is a collaboration of state Medicaid and public pharmacy programs. DERP produces concise, comparative, evidence-based products that assist policy makers and other decision-makers facing difficult drug coverage decisions.

DERP is nationally recognized for its clinical objectivity and high-quality research. It focuses on specialty and other high-impact drugs, particularly those that have potential to change clinical practice. DERP reports evaluate efficacy, effectiveness and safety of drugs to ultimately help improve patient safety and quality of care while helping government programs contain exploding costs for new therapies.

DERP offers:

- **High-Quality Evidence** – DERP offers the best available clinical evidence on which to base policy decisions related to pharmaceuticals. DERP reports compare the effectiveness of drugs commonly used for the same conditions, highlight safety issues, and assist public pharmacy programs to enact policies that help increase the quality of patient care. DERP reports include a comprehensive search of the global evidence, an objective appraisal of the quality of the studies found, and a thorough

synthesis of high-quality evidence. Although the reports do not include cost data, policymakers are able to use the reports to make informed policy decisions that save money.

- **Independence Governance -** DERP is the only self-governed national forum available to public agencies. It uses a collaborative model and provides objective research on drug effectiveness to bring evidence to drug policy decisions. DERP reports are independent and objective. The research is conducted by investigators who have no financial or other conflicts of interest in the pharmaceuticals they study.
- **Improved Drugs Safety and Efficiency –**
    - DERP reports are used to develop prior authorization and drug utilization management policies
    - One state, using DERP reports for its preferred drug list, estimates approximately $37 million in costs avoided over five years, and another state estimates $80 million per year
    - Reports include up-to-date clinical evidence on adverse events and safety information of the drugs reviewed and have highlighted risks associated with the drugs studied before other sources
    - DERP reports are used to develop practice guidelines and provider education products to manage drugs with substantial off-label use
- **Drug Reports under Development include:**
    - Anticoagulants
    - Antiplatelets
    - Atypical Antipsychotics
    - Controller Drugs for Asthma
    - Diabetes Drugs
    - Hepatitis C Drugs
    - Multiple Sclerosis Drugs

Many of these reports and activities dovetail with the CQMs on which EPs and EHs must report for demonstrating MU under the NC Medicaid EHR Incentive Program. Expanding availability of evidence-based resources will provide NC more robust sources of best practices and the necessary data and information on which to base sound decisions. DMA believes the benefits of both MED and DERP are substantial and desires to request funding for participation.

B.6 Medicaid Technical Infrastructure and Environment

The replacement MMIS, NCTracks, will both leverage and contribute data to the emerging HIE technical infrastructure.

NCTracks was developed under the oversight of a dedicated program office, the Office of MMIS Services (OMMISS), at the direction of the NC DHHS. NCTracks was designed to support the MITA standards. OMMISS has ensured that NCTracks is consistent with the provisions noted in the *North Carolina Statewide HIE Plan*, *Section 6.7*, whereby HIE services supported through the State HIE Cooperative Agreement will comply with all national standards as defined in the *Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology: Final Rule.*

The North Carolina Medicaid Incentive Payment System (NC-MIPS) provides the interface through which eligible professionals and hospitals interact with the NC Medicaid EHR Incentive Program, and the related Attestation Validation Portal (AVP) provides the functionality for staff to administer the program. The NC Medicaid EHR Incentive Program uses NCTracks as the payment mechanism for incentive payments.

B.7 Community Care of North Carolina (CCNC Program)

Through the Community Care of North Carolina program, NCCCN has a proven track record of engaging the provider community in meeting cost and quality objectives for the Medicaid program, and of leveraging public-private partnerships at the local and state levels toward aligned interests. NCCCN is proud of the accomplishments achieved over the past decade, which broadly include:

- Building primary care medical home infrastructure for the Medicaid population;
- Establishing a culture of quality improvement, comprehensive patient-centered care, and care coordination across care settings; and, reducing healthcare costs while raising the standard of care in North Carolina.

With over 5,000 primary care providers and over 1.6 million patients participating in the CCNC Program statewide, and the active engagement of virtually all NC hospitals, health departments, departments of social services, and local mental health management entities, Medicaid has been a principal catalyst for quality improvement in North Carolina healthcare for years.

Through the CMIS, Pharmacy Home, Reports Site, and Provider Portal applications, the goal of the Informatics Center is to put *the right information in the right hands at the right time* to promote evidence-based, patient-centered care by a coordinated care team.

In anticipation of Medicaid Reform and the move to MACRA and MIPS, NCCCN are focusing on maturing the IT infrastructure, adapting ITIL best practices and updating analytic processes to be ready to adapt to the changing Medicaid model.

- To strengthen redundancy and reduce risk, NCCCN is in the process of adding a second backup site to provide better coverage in case of emergencies, expanding our development environments across applications and implementing a replicated pre-production environment as a fail over.
- Over the last year NCCCN has established an ITIL department and a Change Management process for production applications and is moving to a Release Schedule process this summer.
- NCCCN has recently created a method for Analytics to schedule the jobs to create analytic summary tables, saving time and building in quality checks, with an expectation to have all quarterly reporting fed through automated jobs by the September 2017.
- NCCCN has selected a new user identification management system to improve oversight and simplify granting and monitoring access and expects to implement the system this summer.
- NCCCN has decided to transition to a vendor care management solution to improve work flows, reduce support resources, allow better facilitation with the MCOs expected to cover Medicaid post-reform and ensure the performance reporting such customers would expect to see.
- The Analytics department is developing operational performance focused care management reports to improve efficiency in delivering excellent care and ensure alignment in daily activities and overall program goals.
- Analytics is expanding the Tableau dashboard suite, just wrapping up a project to embed user level security within the Tableau extracts. NCCCN expects to post multiple dashboards during the summer of 2017 with access beyond the current limited Network usage.

NCCCN is working on designing next generation offering of complex care management services, enhanced automated business workflows, and providing IT tools to enable that offering. Also, NCCCN is capitalizing on current capabilities and enhancing overall efficiency and effectiveness of its complex care management program. NCCCN is developing disaster recovery and fail over plan for high availability of IT services and to minimize disruptions to end users in the event of a disaster. NCCCN started deploying IT Service Management (ITSM)

processes last year with a goal for improving the delivery of IT services. Change management is implemented and Release management will be implemented this year. Incident management has also been deployed by adding a customer service portal that allows users to open and track incident tickets, ask questions, report difficulties, and access relevant product and service knowledge bases. The portal provides transparency to users concerning their service tickets as they are able to follow the ticket as it is being worked, and enhances service by proactively ensuring that priority items are addressed. NCCCN is also planning to move to an Identity and Access management solution to strengthen authentication and authorization and to maintain a single source of truth for provisioning and managing the access profiles for users. This endeavor is anticipated to yield increased operational efficiencies as well as a more simplified technology architecture that aligns with our go-forward business and regulatory compliance framework.

B.8 Special Needs Population

The EHR Incentive Program has broad appeal to EPs and EHs who serve the Medicaid population; however, NC is working to ensure that the needs of the most vulnerable are considered within the administration of the NC Medicaid EHR Incentive Program.

One example is the priority North Carolina places on the integration of the NCIR. The NCIR is a secure, web-based tool that serves as the official source of NC's immunization information. It provides electronic access to all of NC's Local Health Departments (LHDs). While it contains data for individuals of all ages, the importance and utilization of immunizations is greater for children, who compose approximately 50 percent of Medicaid's enrolled beneficiaries. NCIR integration with the statewide HIE network is a high priority for the NC DHHS. Outreach and technical assistance to professionals whose specialties are focused on caring for children (i.e., pediatric, family practice) is a priority for referrals to the RECs and follow-up programs.

Pediatricians make up a large share of the participants in the NC Medicaid EHR Incentive Program. Flexibility in the Program's patient volume requirement allows for greater participation by pediatricians, and has resulted in over $4.1 million dollars in payments made for pediatricians meeting the 20 percent Medicaid patient volume threshold. As of June 20, 2017, 1,287 pediatricians have successfully attested for MU. Another 316 pediatiricans have attested for AIU, but have not yet returned for MU.

B.9 Effect of State Law

The NC HIE Legal/Policy Workgroup was charged with addressing the legal issues and/or barriers to the adoption of HIT. Prior to the enactment of recent legislation described in *Section A.11 State Law and Regulatory Changes to Support HIT Activities in NC*, North Carolina law contained a complex mixture of opt-in and opt-out provisions based on provider type, communicable disease and minor's consent rules. As amended, North Carolina laws that impact healthcare providers' disclosure of patient information are consistent with the HIPAA Privacy and Security Rules. The North Carolina HIE Act, codified in Article 29A of Chapter 90 of the NC General Statutes, is intended to improve the quality of healthcare delivery within North Carolina by facilitating and regulating the use of a voluntary, statewide HIE network for the secure transmission of patient information among healthcare providers and health plans in a manner that is consistent with HIPAA. The Act also ensures individuals have control over the use and disclosure of their information through the HIE Network by providing individuals with a continuous right to affirmatively decide to disallow his or her patient information from being disclosed through the statewide HIE Network through an opt-out process. The Act eliminates inappropriate statutory barriers to the adoption and use of EHRs that previously existed throughout North Carolina law.

The North Carolina Health Information Exchange Authority (NC HIEA) was created in NC Session Law 2015-241 s. 12A.4 and 12A.5 in September 2015 to oversee and administer North Carolina's HIE. On February 29, 2016, the

HIE was transferred from the Community Care of North Carolina (CCNC) / North Carolina Community Care Networks (N3CN) structure to the new statewide North Carolina Health Information Exchange Authority (NC HIEA). In its new home under the NC HIEA, the statewide HIE network, now called NC HealthConnex, has stronger support than ever before from state government and key health care stakeholders, including financial assistance through state-appropriated funds. The transfer of NC HealthConnex under state governance and the subsequent mandate for all health care providers that receive Medicaid or other state funds for provision of health care services participate with NC HealthConnex are significant steps toward building and sustaining a high-value statewide HIE network. Other 2015 laws incorporate a place for the statewide HIE network to support Medicaid transformation efforts and other required state data feeds; see *Section A.11 State Law and Regulatory Changes to Support HIT Activities in NC* for more information.

NC Session Law 2017-57, which amends NC Session Law 2015-241 s12A.5, continues to support NC's mission to expand use of electronic health record systems and promote connectivity through the NC HIEA. The updated dates for mandated connection provide a more realistic timeline for establishing connectivity and submission of data and also appropriates funding to support all activities related to upgrading and maintenance of the data exchange technical environment.

C. Administering and Overseeing the EHR Incentive Program

C.1 Program Organization, Management and Oversight

This section gives a high-level overview of the NC Medicaid EHR Incentive Program. Included herein is the general approach to managing the program, the history of its oversight, and the roles and responsibilities of the program staff.

C.1.1 General Policy Goals

The goal of the NC Medicaid EHR Incentive Program is to encourage eligible professionals (EPs) and eligible hospitals (EHs) to adopt, implement, or upgrade (AIU) to a certified EHR technology, and then meaningfully use (MU) that technology in ways that can positively affect patient care. The idea being that widespread adoption of EHR technology will improve care coordination, improve efficiency and outcomes to reduce costs, and help engage patients in their health. Program staff works toward this goal through assisting providers, administering incentive payments consistently according to program rules and state and federal policy, and engaging stakeholders and organizations statewide to advance the adoption and meaningful use of CEHRT.

C.1.2 Program Organization

C.1.2.1 Early Management and Approach

Early planning activities and initial administration of the NC Medicaid EHR Incentive Program were carried out by various workgroups through OMMISS. In order to accelerate the launch of the program in NC, a mix of state personnel and contracted resources at OMMISS devised the following plan for its first program year. With the assistance of CSC and Quarterline, OMMISS built and launched the NC-MIPS, consisting of programs and processes to ensure EPs and EHs have met the federal and state statutory and regulatory requirements for the EHR Incentive Program. To begin making incentive payments in early 2011 and avoid making modifications to the legacy MMIS set to be replaced in July 2013, OMMISS developed a strategy to make payments initially through the North Carolina Accounting System (NCAS) with interfaces to the CMS R&A and the EVC. In mid-2011, the first incentive payments were disbursed to NC providers.

C.1.2.2 Structure and Oversight

Administration and oversight of the program were moved from OMMISS to DMA in 2011, while the technical and operations functions of the portal used by providers to attest for the program, NC-MIPS, remained at OMMISS. State staff were added to DMA starting in July 2011, with a dedicated Program team taking shape in the last quarter of 2011. State program staff oversees provider outreach and communication, attestation validation, quality assurance, budget, appeals, and audit activities.

Early Program Structure

Until April 2012, OMMISS continued to manage the technical development of NC-MIPS. This effort employed a range of part-time technical staff at CSC in 2011, four help desk and operations staff, and eight full-time developers in 2012. The NC-MIPS development contractors were transferred to DMA in April 2012 to reduce costs and improve efficiencies. DMA moved the operations activities in-house 2013, simultaneously reducing the number of staff needed for both development and operations from eight to six and four to one, respectively.

In October 2013, three investigators moved from DMA's Program Integrity section to the NC Medicaid EHR Incentive Program.

Current Structure

Figure 15 below represents the staff of the NC Medicaid EHR Incentive Program as of June 2017.

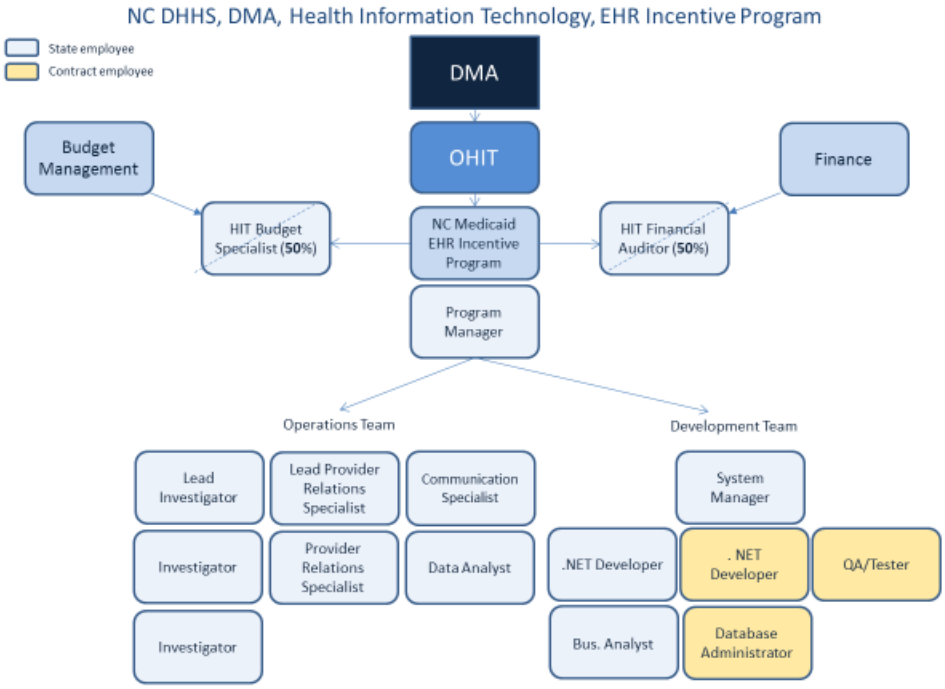


Figure 15 - The Program Team Organizational Chart (2017)

Office of Health Information Technology (OHIT) Director

Responsible for developing a state plan for implementing and ensuring compliance with national HIT standards and for the most efficient, effective, and widespread adoption of HIT; identifying available resources for the implementation, operation, and maintenance of HIT; and monitoring HIT efforts and initiatives in other states and replicating successful efforts and initiatives in North Carolina. Works closely with NC HIEA in coordinating efforts toward legislatively mandated connections.

Roles and Responsibilities of the Program team

All staff time is 100 percent NC Medicaid EHR Incentive Program unless otherwise specified.

Program Manager

Responsible for the overall planning, implementation, and management of the NC Medicaid EHR Incentive Program. Core responsibilities include: directing activities of the Program team toward federal EHR Incentive Program goals, ensuring program compliance, and acting as the Program contact for CMS and other states.

Data Analyst

Designs and leads data analytics for the NC Medicaid EHR Incentive Program, including NC-MIPS metrics reporting, MMIS data warehouse research, and data synthesis for outward/upward distribution. Tracks and analyzes program performance metrics.

Communication Specialist

Crafts and executes the Communication Plan for the NC Medicaid EHR Incentive Program, including messaging, provider outreach, program website, articles, bulletins, and communication with key stakeholders and partners. Assists all other roles with external communication such as correspondence templates and training and internal documentation review.

Systems Manager

Directs development team on behalf of the NC Medicaid EHR Incentive Program's NC-MIPS and AVP systems. Responsible for contractor staffing, assigning tasks to development team, and maintaining documentation related to program's servers, hardware, and software.

Development Team Contractors

(Includes Database Administrator, QA/Testers, Developers)

At the direction of the program manager and systems manager, develops and maintains the NC-MIPS and attestation validation portal (AVP) in compliance with state and federal regulations.

Senior .NET Developer

Serves as the lead technical resource for the NC Medicaid EHR Incentive Program in support of all maintenance and enhancement development for NC-MIPS and the attestation validation portal (AVP) including software building, release management, and developer testing including source code management.

Business Analyst

Responsible for creating all documentation used by developers for maintenance and enhancement of NC-MIPS and AVP including responding to CMS changes, updating system design and user documentation, and creating test cases and performing QA testing.

Budget Specialist

Part-time employee; manages the budget for the NC Medicaid EHR Incentive Program, monitors accuracy of incentive payments, provides regular financial reporting and forecasting to program manager, and conducts all CMS financial reporting related to the Program, including CMS 37 and 64 reports.

Financial Auditor

Part-time employee; serves as the subject matter expert for hospital payment calculations for the NC Medicaid EHR Incentive Program. Calculates payments for hospitals, creates policy around NC-specific hospital eligibility and attestation requirements, and conducts outreach with hospitals as necessary.

Provider Relations Lead

Heads up the help desk for the NC Medicaid EHR Incentive Program. Responsible for overseeing the pre-payment validation process, including eligibility determination, provider outreach efforts, denials, and eligibility appeals and hearings.

Provider Relations Specialist

Responsible for assisting with eligibility determination and provider outreach efforts, such as uploading providers' attestations into AVP, pre-payment screening, sending welcome letters and outreach emails, and making reminder calls to providers.

Lead Investigator

Heads up the team of investigators who conduct pre- and post-payment validations and audits. Responsible for risk analysis, audit scheduling, representing DMA at audit-related meetings and hearings, and conducting validations and audits with the investigators.

Investigators

Conduct pre- and post-payment validations for professionals and pre-payment processes for hospitals; oversee recoupment of payment in the case of adverse post-payment review findings.

The NC Medicaid EHR Incentive Program Team carefully plans and documents the various components of the Program's administration to ensure tracking of activities for funding and reporting purposes. Staff who contribute part-time to the EHR Incentive Program, complete timesheets to document accurate distribution of effort and funds. This timesheet data goes through a cost allocation program to charge the appropriate amount of payroll expenses to the correct cost centers. Where projects are eligible for various Federal Financial Participation (FFP) rates (i.e., 90 percent administrative, 100 percent incentive payments), this is specified in the last node of the cost center number such that the invoice reviewer codes the payment with the proper FFP funding.

C.2 Outreach and Provider Support

North Carolina seeks to maximize provider participation in the incentive program and, through coordination across multiple stakeholders, will support the provider community using multiple approaches.

C.2.1 Stakeholder Collaboration in Plan Development

Section A: North Carolina's "As-Is" HIT Landscape of the SMHP describes the complex HIT landscape in North Carolina. The NC OHIT has worked with DMA, NC AHEC, NC HIEA, the NC Medicaid EHR Incentive Program, and other stakeholder groups to develop the SMHP and will continue to do so.

C.2.2 Communication Plan

The NC Medicaid EHR Incentive Program has developed a comprehensive plan that addresses the communication plans and projections for the program. The original document was created at the onset of the Program in 2010 and was most recently revised in May 2017 to reflect the challenges, opportunities, and outreach activities for Program Year 2017. This document is available to CMS upon request. The plan looks to achieve several goals including increasing awareness of Stage 3 MU goals and requirements and increasing the number of returning participants.

New communication goals in 2017 focus on increasing the number of providers who are coming back to attest for MU in years two through six and ensuring they have the proper knowledge and resources to do so. Those messages include:

- Incentive money;
- Improved quality of care;
- Improved practice efficiencies;
- Improved technology;
- Medicare penalties if not deemed a meaningful user of CEHRT; and,
- The NC Medicaid EHR Incentive Program will work with providers to deliver help.

The continued communicative efforts will focus on disseminating these messages, and provider education through different channels including the NC Medicaid EHR Incentive Program website, a monthly Medicaid Provider

Bulletin, articles in partner organization newsletters, webinars, targeted emails, and presentations to external stakeholders.

As we move toward Stage 3 MU, communication from the NC Medicaid EHR Incentive Program will be focused on delivering a consistent message and making the differences between Modified Stage 2 and Stage 3 MU as clear as possible.

The NC Medicaid EHR Incentive Program ramped up its outreach efforts for program year 2016 and will continue to do so for 2017. Some examples of 2016 activities include:

- Increased communication with representatives from the largest groups of particapnts;
- Interviewed Dr. Karen Smith, Family Physician of the Year for 2017;
- Targeted previously denied providers and encouraged them to re-attest before the deadline;
- Articles posted monthly in the Medicaid Provider Bulletin; and,
- Used NCTracks' blast email services and announcement page to reach the Medicaid provider community.

For more details on the 2016 outreach efforts, see *Appendix 6*.

C.2.2.1 Provider Outreach via Partners

The NC Medicaid EHR Incentive Program works closely with a number of internal and external stakeholder and partner groups to disseminate program updates and messages as they become available. In 2016 and the first quarter of 2017, communication efforts focused on reaching out through internal and external partners to ensure a consistent and accurate message was being delivered to our partners and the provider community. These activities include:

- 8/16/16 – Program Year 2016 outreach email sent to partner organizations, including representatives from the organizations below, to share with their constituents:
    - NC AHEC;
    - NC HIE;
    - NC Office of Rural Health;
    - NC Community Health Centers Association;
    - NC Medical Society;
    - NC Dental Society;
    - NC Medical Group Managers;
    - NC Healthcare Information & Communications Alliance;
    - NC Pediatric Society;
    - NC Psychiatric Association;
    - NC Academy of Family Practice;
    - NC Academy of Physicians Assistants;
    - NC Psychiatric Association; and,
    - NC Council of Nurse Practitioners.
- 1/31/17 – Article posted in the LME-MCO Joint Communication Bulletin.
- 2/1/17 – Article posted in the NC Dental Society's e-newsletter.
- 2/17/17 – Article distributed through ORHCC.
- Presentations at Stakeholder meetings and conferences, including:
    - 4/20/16 - Presented at NC Healthcare Information & Management System Society (NCHIMSS)
    - 9/21/16 – NC OHIT director's presentation at NC Providers Council 2016 Annual Conference included information on the NC Medicaid EHR Incentive Program.

- 1/17/17 - Presented program overview for NC Association of Public Health Nurse Administrators.

C.2.2.2 NC Medicaid EHR Incentive Program Website

The Medicaid EHR Incentive Program website is part of the larger DMA website and is located at: https://www2.ncdhhs.gov/dma/provider/ehr.htm. The Program has promoted the website as a one-stop shop for all MU and EHR Incentive Program information. The existing website was reformatted to include expandable tabbed sections. The website gives providers the most important program information and updates. New sections are added as needed, but the tabs are currently as follows:

- Breaking News – The most pertinent, time-sensitive information is displayed at the top of the website so it is the first thing providers see when they visit the web so it is more impactful for the user.
- NC Medicaid EHR Incentive Program Podcast Series – Nine recorded webinars and their slide deck, which may serve as a reference library for providers.
- Introduction – History of the EHR Incentive Programs, the basic payment information for EPs and EHs, and the program timeline are posted in this section.
- Are you Eligible? – Explains the eligibility requirements for EPs and EHs.
- Patient Volume – This section highlights important information and examples to better understand what is needed to calculate patient volume.
- Path to Payment – Gives providers an overview of the entire lifecycle of attesting for, and receiving an incentive payment.
- Provider Registration and Attestation – Tells providers where they need to register and attest for the NC Medicaid EHR Incentive Program.
- Meaningful Use – Defines MU, the criteria to meet MU, requirements to meet MU.
- Links – Lists the commonly used links providers may find useful.
- Frequently Asked Questions – Provides a link to the NC Medicaid EHR Incentive Program's FAQ website and a link to CMS' FAQ section.
- Additional Resources – Acting as a quick reference library, this section gives providers any and all tools to help them understand the requirements of the Program and how to navigate through the program.
- Contact Us – Provides contact information for the NC-MIPS Help Desk.
- Technical Assistance – Provides overview of the assistance available from our contracted technical assistance partners, NC AHEC, and contact information for each regional AHEC.

This website is managed in-house by the Program's communication specialist and is updated on a regular basis with new content and program updates.

C.2.2.3 Medicaid Bulletins

Medicaid Bulletins are the primary vehicle for disseminating messages to the larger Medicaid provider community. These monthly e-periodicals are sent to communicate important policy information to all Medicaid-enrolled providers. More than 11,000 practices, professionals, and healthcare entities currently subscribe and access the Medicaid Bulletin via listserv notifications and the DMA website.

The NC Medicaid EHR Incentive Program's communication specialist submits a monthly article to the Medicaid Bulletin.

C.2.2.4 Medicaid EHR Incentive Program Attestation Guides

The NC Medicaid EHR Incentive Program has developed attestation guides to help EPs and EHs effectively navigate the attestation process. These guides are available as PDFs online in the following locations:

- The NC Medicaid EHR Incentive Program website
  https://www2.ncdhhs.gov/dma/provider/ehr.htm
- The NC Medicaid Incentive Payment System website
  https://ncmips.nctracks.nc.gov/

C.2.2.5 Current State and Gap Analysis

The pool of participants after the close of Program Year 2016 is 6,140 professionals. Of those, 86 have received six payments and completed their participation in the program. There are 2,875 professionals who have attested only once. One of our outreach projects for FFY 2018 will target this gap to encourage these EPs to meaningfully use their EHR systems and continue participating in the Incentive Program.

C.2.3 NC Medicaid EHR Incentive Program Help Desk

Pursuant to program requirements, North Carolina established the NC Medicaid EHR Incentive Program Help Desk to assist providers with questions and concerns around registration, attestation, and the validation process. The Help Desk began in 2011 as an augmentation of the Medicaid Enrollment, Verification, and Credentialing System Center. The Program's Operations Team hosted the Help Desk, and it was comprised of CSC staff, including some veteran EVC Help Desk staff. In June 1 2013, the Help Desk moved in-house to DMA, thereby decreasing the number and cost of support staff. As of June 2017, the Help Desk is staffed by a Provider Relations Lead and Provider Relations Specialist, who are full-time state employees. The Help Desk answers general program questions, offers assistance on all aspects of the attestation process, and works with providers to resolve issues.

C.3 NC Medicaid EHR Incentive Program Business Requirements

This section details NC Medicaid's business requirements relative to the NC Medicaid EHR Incentive Program.

C.3.1 Participation Periods

Enrollment requirements are defined by program year. North Carolina has a 120-day "tail period" to allow for attestation for a given program year beyond the end of that calendar year. The tail period is defined as a period of time beyond the end of the calendar year during which providers may attest for the prior program year. For example, providers had until April 30, 2017 to attest for Program Year 2016. NC-MIPS closes at midnight on the last day of the tail period. Until that point, providers can submit an attestation, and the Program team uses that submitted information to attempt to verify whether a provider meets the requirements to receive an incentive payment. Changes cannot be made after the end of NC's CMS-approved tail period.

Enrollment starts with a registration communicated to the state from the CMS R&A, the defined interface for CMS.

DMA determined all NC hospitals are dually eligible for the Medicare and Medicaid EHR Incentive Programs. So, as part of pre-payment validation (see **Tables 9 & 10** below), DMA checks the C5 and/or CMS' Research & Support (R&S) user interface to ensure the hospital is attesting on a schedule consistent with their participation in the Medicare EHR Incentive Program.

Eligibility Criteria	CMS R&A Information	State Review and/or Verification Process
EP: Program participation period	Registration	*Verification:* • EP has not already received six years of incentive payments. • Do not allow entry into the program after 2016. • Do not allow any payments after Program Year 2021. • Verify from CMS data appropriate program year for EPs switching from another state.
EH: Program participation period	Registration	*Verification:* • EH has not already received three years of incentive payments. • Do not allow nonconsecutive participation after year 2016. • Ensure appropriate attestation schedule based on participate in Medicare EHR Incentive Program. • Ensure appropriate program year for EHs switching states.

Table 9 - Participation Timeframe Verification

*Note: The *State Review and/or Verification Process* only include those actions taken during pre-payment validation. Post-payment review is outlined in the NC Medicaid EHR Incentive Program Audit Strategy.

C.3.2 Provider Type

NC-MIPS verifies the provider type sent via the CMS R&A user interface against state data for each provider to ensure the professional or hospital is one of the following provider types:

- Doctor of Medicine or Osteopathy;
- Doctor of Dental Surgery or Dental Medicine;
- Nurse Practitioner;
- Certified Nurse Midwife;
- Physician Assistant;
- Acute Care Hospital; and,
- Critical Access Hospital.

In order to qualify at the 20 percent Medicaid patient volume level for a reduced incentive payment, North Carolina recognizes a pediatrician as an EP if they are a Doctor of Medicine or Osteopathy and are enrolled with NC Medicaid as a pediatrician, or if they are board certified by a national certification board in a Pediatric, Adolescent or Child medical specialty area.

The following list includes provider types that are not currently considered as eligible by the NC Medicaid EHR Incentive Program:

- Doctor of Podiatric Medicine;
- Doctor of Optometry; and,
- Chiropractor.

Eligibility Criteria	Provider-Reported Eligibility Information	State Review and/or Verification Process
EP: EP type	• Medicaid EP provider type selection from R&A	*Verification:* Using NC Medicaid provider enrollment data and state provider licensure data, crosswalk against provider type and specialty data to validate that provider matches with valid EP type. If a pediatrician attesting at the 20 percent Medicaid patient volume level, check the provider is enrolled as a pediatric specialist with NC Medicaid or has a board certification in a Pediatrics, Adolescent, or child medical specialty area. If a physician assistant, must submit memo on letterhead.
EH: EH type	• Medicaid EH provider type selection from R&A • CCN	*Verification:* Using NC Medicaid provider enrollment data and state provider licensure data, crosswalk against provider type and CCN to validate that provider is enrolled and matches with valid EH type. Using cost report data, validate that ALOS for acute care hospitals is 25 days or less. *Review:* Confirm CCN is in appropriate range.

Table 10 - Provider Type Verification

C.3.3 Basic Eligibility Requirements

The state performs a number of pre-payment verification checks to ensure an EP meets the basic program requirements prior to payment. To demonstrate this effort, **Table 11 below** describes the basic program eligibility requirements with a description of the pre-payment verification performed by the state.

Eligibility Criteria	Provider-Reported Eligibility Information	State Review and/or Verification Process
EP & EH: Must be a Medicaid provider.	EP/EH provides NPI.	• Ensure provider information matches between the information submitted in CMS R&A and NC MIPS.

Eligibility Criteria	Provider-Reported Eligibility Information	State Review and/or Verification Process
		• Confirm EP provided services to at least one Medicaid patient in the program year by reviewing Medicaid paid claims.
EP & EH: Cannot be excluded, sanctioned, or otherwise deemed ineligible to receive payments from the state (i.e., already received incentive payment).	N/A	•Search for Public Actions as listed on appropriate licensing agency websites. •Check OIG to confirm no exclusions for EP/EH •Search an internal penalty-tracking database to confirm no violations have resulted in penalties or administrative actions against the EP/EH's license. •Verify no action is pending that would prevent approval by checking the information housed at the Medicaid Investigative Unit.
EP: PA in PA-led FQHC or RHC	EP submits required documentation.	EP submits memo on letterhead attesting that the leading PA is one of the following: • The primary provider in the clinic/center; • The clinical or medical director at the clinic/center; or, • The owner of the clinic/center.

Table 11 - Basic Eligibility Requirements

C.3.4 Group Affiliation

North Carolina defines a group as one or more EPs practicing together at one practice location or at multiple practice locations within a logical geographical region under the same healthcare organization. Group affiliation is validated pre-payment by the NC Medicaid EHR Incentive Program Operations Team by checking NCTracks for current group affiliation.

The group affiliation validation process differs slightly for LHDs and Physician Assistants (PAs) working in a PA-led FQHC or RHC.

PAs are also asked to provide a memo on the FQHC or RHC's letterhead speaking to at least one of the following requirements:

1. The PA is the primary provider in the FQHC or RHC (for example, when there is a part-time physician and full-time PA, we would consider the PA as the primary provider);
2. The PA is a clinical or medical director at a clinical site of practice that is an FQHC or RHC; or,
3. The PA is an owner of an FQHC or RHC.

LHDs have historically billed NC Medicaid under their group's NPI; therefore, some EPs working in LHDs have not needed to be individually enrolled in Medicaid in the past. In this case, LHDs can provide a memo on the Health Department's letterhead listing all EPs affiliated with the group. Program staff validates group affiliation by

checking any LHD-affiliated EPs (using an LHD's NPI to support the patient volume requirement) against the supplied memo.

C.3.5 Patient Volume

This section describes the NC Medicaid EHR Incentive Program's patient volume requirements and pre-payment validation process. Post-payment review is outlined in the NC Medicaid EHR Audit Strategy.

C.3.5.1 Patient Volume for Eligible Professionals (EPs)

Providers must supply patient volume data for calculations consistent with the Final Rule. The data will be subject to a series of verifications. Patient volume will be calculated using the encounter-based formula option specified under the Stage 2 Final Rule:

> *Total Medicaid encounters in any representative, continuous 90-day period in the calendar year preceding the program year or 12-month period preceding date of attestation / total patient encounters in the same 90-day period.*

To be eligible for the incentive, EPs must demonstrate 30 percent Medicaid patient volume, unless the EP is a pediatrician, in which case the threshold is 20 percent (for a reduced payment).

North Carolina Medicaid recognizes an EP as being a pediatrician if s/he is a Doctor of Medicine (MD) or a Doctor of Osteopathic Medicine (DO) and meets one of the following requirements below:

- Enrolled with NC Medicaid as a pediatrics specialty; or,
- Board certified by a national certification board in a Pediatrics, Adolescent or Child medical specialty area.

For program years 2011 and 2012, a Medicaid patient encounter was defined as a service rendered on any one day to an individual where Medicaid or a Medicaid demonstration project under Section 1115 of the Social Security Act paid for part or all of the service as stated in the Stage 1 Final Rule. Beginning Program Year 2013, a Medicaid patient encounter is defined as a billable service rendered on any one day to a Medicaid-enrolled individual, regardless of payment liability. This includes zero-pay claims.

EPs must count actual encounters, defined as a unique patient on a unique day, from their own auditable data source. North Carolina defines an auditable data source as an electronic or manual system that an external entity can use to replicate the data from the original data source to support their attested information.

Medicaid patient volume should be calculated in the following way:

- Numerator: All unique encounters where services are rendered to a Medicaid-enrolled individual during any continuous 90-day period from the calendar year prior to the program year or from the 12 months preceding date of attestation.
- Denominator: In the same 90-day period, all unique encounters (a patient seen by an EP for any service), regardless of the payment method.

Medicaid patient volume from eligible billable services that were not billed or were not reimbursed (zero-pay) must be reported separately from Medicaid-paid encounters during attestation. The zero-pay portion of the numerator will not be verified during pre-payment validation, but is subject to verification by post-payment audit.

Examples of billable services include:

1. Encounters denied for payment by Medicaid or that would be denied if billed due to exceeding the allowable limitation for the service/procedure;

2. Encounters denied for payment by Medicaid or that would be denied if billed because of lack of following correct procedures as set forth in the state's Medicaid clinical coverage policy such as not obtaining prior approval prior to performing the procedure;
3. Encounters denied for payment due to not billing in a timely manner;
4. Encounters paid by another payer which exceed the potential Medicaid payment; and,
5. Encounters that are not covered by Medicaid such as some behavioral health services, HIV/AIDS treatment, or other services not billed to Medicaid for privacy reasons, oral health services, immunizations, but where the provider has a mechanism to verify Medicaid eligibility.

Further, the Final Rule defines billable as follows:

1. Concurrent care or transfer of care visits;
2. Consultant visits; or,
3. Prolonged physician service without direct, face-to-face patient contact (for example, tele-health).

In NC, we refer to Title XIX expansion CHIP as MCHIP (Medicaid CHIP). Beginning October 2012, per the Stage 2 Final Rule, NC permits these encounters to be counted in the numerator of the patient volume calculation.

For additional up-to-date information on patient volume for EPs, please refer to the NC Medicaid EHR Incentive Program website at https://www2.ncdhhs.gov/dma/provider/ehr.htm.

C.3.5.2 Patient Volume for Eligible Hospitals (EHs)

To be eligible to participate in the program, EHs are required to have a minimum of 10 percent of total patient encounters attributed to Medicaid patients. This percentage is calculated by dividing the sum of Medicaid acute care inpatient discharges (ACIDs) and Medicaid emergency department (ED) visits by the sum of all ACIDs and all ED visits in a continuous 90-day period during the preceding federal fiscal year (program years 2011 and beyond) OR during the 12-month period preceding the date of attestation (program year 2013 and beyond). In accordance with the Stage 1 Final Rule, only Medicaid-paid discharges were eligible for inclusion in the numerator. With the Stage 2 Final Rule published September 2012, EHs may include Medicaid-enrolled zero-pay patient discharges in their numerator beginning Program Year 2013.

For additional up-to-date information on patient volume for EHs, please refer to the NC Medicaid EHR Incentive Program website at https://www2.ncdhhs.gov/dma/provider/ehr.htm.

C.3.5.3 Patient Volume Verification

During attestation, the provider will supply data indicating fulfillment of each of the eligibility criteria in **Tables 13, 14 and 15** below. Program staff review the provider-reported eligibility factors to assure that providers are in compliance with the eligibility requirements and, when possible, verify the provider-reported information against available state data. Selected elements will also be subject to post-payment audit.

In pre-payment validation, claims data is used to verify the portion of the reported patient volume numerator where Medicaid paid for part or all of the service. To verify this figure, the Program's data analyst uses paid Medicaid claims as a proxy for encounters, and queries Medicaid's claims database for claims for the specified reporting period for the NPIs reported through NC-MIPs during attestation. Paid Medicaid claims are summed with the zero-pay reported encounters for the 90-day period for the NPIs listed by the provider in the attestation to attain the numerator. This numerator is then divided by the provider-reported denominator to confirm the appropriate threshold is met.

For EPs, only one claim per patient per day per provider is included in the total for the numerator. Global billing codes for certain OB/GYN, dental, and surgery procedure claims are counted more than once toward the total for

the numerator to represent the typical number of encounters covered by the one claim. Multi-day claims, where the "to date-of-service" is after the "from date–of-service," are also accounted for based on the billing code. A list of multipliers with their description can be found in **Table 12** below.

Procedure code	Number of encounters
OBSTETRICAL CARE (59400)	18
VAGINAL DELIVERY ONLY (WITH OR WITHOUT EPISIOTOMY AND/OR FORCEPS); INCLUDING (59410)	6
ANTEPARTUM CARE ONLY; 4-6 VISITS (59425)	5
ANTEPARTUM CARE ONLY; 7 OR MORE VISITS (59426)	9
POSTPARTUM CARE ONLY, SEPARATE PROCEDURE (59430)	3
TOTAL OB CARE W/ CESAREAN DELIVERY (59510)	20
CESAREAN DELIVERY ONLY; INCLUDING POSTPARTUM CARE (59515)	6
COMPLETE UPPER (D5110)	6
COMPLETE LOWER (D5120)	6
IMMEDIATE UPPER (D5130)	5
IMMEDIATE LOWER (D5140)	5
UPPER PARTIAL ACRYLIC BASE (D5211)	5
LOWER PARTIAL ACRYLIC BASE (D5212)	5
RELINE UPPER DENTURE COMPLETE (LAB) (D5750)	2
RELINE LOWER DENTURE COMPLETE (LAB) (D5751)	2
RELINE UPPER PARTIAL DENTURE (LAB) (D5760)	2
PEDIATRIC PARTIAL DENTURE, FIXED (D6985)	2
SPACE MAINTAINER, FIXED BILATERAL (D1515)	2
MOLAR (EXCLUDING FINAL RESTORATION) (D3330)	2
FIXED BAND TYPE (D1510)	2

Table 12 - Multipliers with Descriptions

If the procedure code is: ANESTHESIA FOR CESAREAN DELIVERY FOLLOWING NEURAXIAL LABOR ANALGESIA/ANESTHESIA (01968); ANESTHESIA FOR VAGINAL DELIVERY ONLY (01960); ANESTHESIA FOR PROCEDURES INVOLVING ARTERIES OF UPPER LEG, INCLUDING BYPASS (01270); ANESTHESIA FOR; ANORECTAL PROCEDURE (00902); ANESTHESIA FOR INTRAPERITONEAL PROCEDURES IN UPPER ABDOMEN INCLUDING (00790); ANESTHESIA FOR HERNIA REPAIRS IN UPPER ABDOMEN; LUMBAR AND VENTRAL (INCISIONAL) (00752); ANESTHESIA FOR PROCEDURES ON EYE; LENS SURGERY (00142); and, there is more than one day between the "from date of service" and the "to date of service," then the number of encounters is two.

If the procedure code is DEVELOPMENTAL SCREENING (96110) and there is no more than one day between the "from date of service" and "to date of service," then the number of encounters will be the number of days between the "from date of service" and "to date of service" inclusive.

If the procedure code is ELECTROCARDIOGRAPHIC MONITORING FOR 24 HOURS BY CONTINUOUS ORIGINAL ECG (93227) or ELECTROCARDIOGRAPHIC MONITORING FOR 24 HOURS BY CONTINUOUS ORIGINAL ECG (93224) and the "to date of service" does not equal the "from date of service," then the number of encounters will equal half the number of days in the timespan from the "from date of service" to the "to date of service" inclusive.

If the procedure code is END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS (90961) or END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 12-19 (90958) and the "from/to date of service" time span is at least 30 days, then the number of encounters is three.

If the procedure code is END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS (90960) and the "from/to date of service" time span is at least 30 days, then the number of encounters is four.

For EHs, DMA verifies Medicaid acute care inpatient discharges and Medicaid emergency department visits using paid Medicaid claims. For emergency department visits, we include claim type hospital outpatient (M) where the procedure revenue code is EMERGENCY ROOM-GEN CLASS (RC450), EMTALA EMERGENCY MEDICAL SCREENING SERVICES EMERGENCY ROOM (RC451), BEYOND EMTALA SCREENING EMERGENCY ROOM (RC452), URGENT CARE (RC456), or EMERGENCY ROOM-OTHER EMERGENCY ROOM (RC459) and the bill type is Hospital Outpatient Admit through Discharge Claim Admit through Discharge Claim (131) or Hospital Outpatient Interim First Claim (137).

For acute care inpatient, we include claim type Inpatient Crossover (X) and Hospital (Inpatient)(S) where the bill type is Hospital Inpatient Admit through Discharge Claim (117) or Hospital Inpatient Replacement of Prior Claim (117).

MCHIP encounters were previously excluded from the patient volume claims query in compliance with the Stage 1 Final Rule. In accordance with the Stage 2 Final Rule released September 2012, MCHIP encounters are included in the query since October 1, 2012.

Eligibility Criteria	**Provider-Reported Eligibility Information**	**State Review and/or Verification Process**
EP: FQHC/RHC "practices predominantly"	• FQHC/RHC patient encounters over six-month period within the calendar year prior to the program year or 12-month period preceding date of attestation • Total patient encounters over same six-month period	*Automated review in NC-MIPS:* Assure the reporting period is valid and that reported numbers demonstrate over 50 percent of encounters occurred at an FQHC/RHC.
EP & EH: Medicaid volume reporting period	• 90-day reporting period for volume determination	*Automated review in NC-MIPS:* Assure that reporting period is exactly 90 days and falls entirely within preceding fiscal year for EHs/calendar year prior to the program year for EPs or 12-

Eligibility Criteria	Provider-Reported Eligibility Information	State Review and/or Verification Process
		month period preceding date of attestation.
EP: Patient Volume	• Encounters paid by Medicaid over 90-day reporting period • Zero-pay Medicaid-enrolled encounters over 90-day reporting period	*Verification:* Use state claims data for specified 90-day patient volume reporting period to verify provider-reported paid Medicaid encounters. Time allowing, outreach is done if this number plus reported zero-pay Medicaid encounters divided by reported denominator is under the required PV threshold. Note: Zero-pay Medicaid-enrolled encounters and total patient encounters (denominator) are verified only in post-payment audit.
EP: FQHC/RHC "needy individual" volume	• Encounters paid by Medicaid over 90-day reporting period • Needy individual encounters over 90-day reporting period, including Medicare and HealthChoice encounters and uncompensated/reduced fee care encounters • Total patient encounters over 90-day reporting period	*Review*: Using provider-reported information, calculate ratio of encounters to determine if the required threshold for Medicaid/needy individual patient volume is met. *Verification:* Using state claims data for specified 90-day volume reporting period verify provider reported paid Medicaid claims. Time allowing, outreach is done if this number plus non-Medicaid needy encounters divided by the reported denominator is under the required patient volume threshold. Note: Non-Medicaid needy encounters and total patient encounters (denominator) are verified only in post-payment audit.

Eligibility Criteria	Provider-Reported Eligibility Information	State Review and/or Verification Process
EH: 10 percent Medicaid volume threshold	• Medicaid ACIDs over 90-day reporting period • Medicaid ED visits over 90-day PV reporting period • Total ACIDs and ED visits over 90-day reporting period	*Review*: Using provider-reported information, calculate ratio of Medicaid inpatient discharges and ED visits to determine if Medicaid volume meets 10 percent. *Verification*: Verify that provider-reported data is consistent with claims data for the 90-day patient volume reporting period.

Table 13 - Patient Volume Pre-Payment Validation

If there is a problem verifying any patient volume data, Program staff may request additional information from providers to assist in the validation process.

C.3.6 Certified EHR Technology

To ensure providers are using CEHRT, NC collects and verifies the reported EHR certification ID using ONC's Certified Health Product List. Providers are not required by CMS to enter their EHR certification IDs during registration in the CMS R&A, but it will be required to update this information in the CMS R&A prior to attesting for an incentive payment with North Carolina. Therefore, providers need to update the CMS R&A with their EHR certification ID if they:

1. Did not provide a EHR certification ID during initial program registration with CMS;
2. Are new to the program; or,
3. Have switched to a different CEHRT (for example, at a new practice site) since their last attestation.

The EHR certification ID will be transmitted to the state and will pre-populate in the NC-MIPS Portal. If this certification ID is not populated or is not accurate in the NC-MIPS Portal, the provider will be asked to update this information in the CMS R&A. The changes made with CMS take at least one but typically not more than two business days to populate in NC-MIPS.

Eligibility Criteria	Provider Reported Eligibility Information	State Review and/or Verification Process
EP & EH: EHR Certification Number	EHR Certification number auto-populates from the CMS R&A into NC-MIPS	*Verification:* Provider relations specialist validates certified EHR number against ONC list.

Table 14 - EHR Certification Verification

C.3.7 Adopt, Implement, or Upgrade

From 2011 through 2016, in the first payment year, providers could receive payments for AIU of CEHRT. The exception to this would be EHs that have already successfully attested with Medicare, where the EH must attest

with NC Medicaid on the same attestation schedule (starting with either 90 or 365 days of MU, depending on the Medicare attestation history). Please note, if an EP switched from Medicare to Medicaid after receiving at least one payment from Medicare that EP must have attested to MU and was ineligible to receive an AIU incentive payment from Medicaid. Providers were not required to submit documentation of AIU with the signed attestation. Program Year 2016 was the last year that EPs could attest for AIU.

C.3.8 Meaningful Use

North Carolina accepted MU attestations for the first time in Program Year 2011 (for EHs) and Program Year 2012 (for EPs). EHs who attest to MU will submit and attest to the same MU measures and clinical quality measures put forth by Medicare. NC has no additional requirements and is not proposing any changes to the MU definition.

All NC Medicaid EHs are dually eligible for the Medicare and Medicaid EHR Incentive Programs. Once an EH has submitted a MU attestation on CMS' EHR Incentive Program website, that EH may then attest with NC through NC-MIPS by keying their Medicaid patient volume. Additional years of cost report data will not be necessary unless the hospital initially qualified under the rules laid out in *Section C.5.3.2: Alternate Payment Calculation for Eligible Hospitals* or recently experienced a change of ownership, merger, divestiture, etc. In the case of the latter, an EH must report the prior year's cost report data each year for payment adjustment until four years of cost report data under a single CCN are recorded (see *Section C.5.3: Payment Calculation for Eligible Hospitals*).

In addition to meeting Medicaid provider eligibility and Medicaid patient volume requirements, EPs who are demonstrating MU must attest to the requirements listed below to receive a MU payment. All MU measures will be keyed into NC-MIPS by the EP.

Eligibility Criteria (EPs only)	**Provider Reported Eligibility Information**	**State Review and/or Verification Process**
90 or 365-day MU reporting period within calendar year that is the same as the program year	Input of accurate reporting period that is the same as the program year.	*Automated review in NC-MIPS:* Ensure attested period is valid.
At least 50 percent of patient encounters occur at a location with CEHRT	Input of at least one such location and attestation to the measure.	*Review:* Ensure at least one location is entered and EP has confirmed that at least 50 percent of their patient encounters occur at a location with CEHRT.
Demonstration of meeting objectives and measures	Input of Yes/No, numerators/denominators, and/or exclusion, as they apply to each measure.	*Review:* Review completion and system-generated acceptance of all measures and any exclusions.

Eligibility Criteria (EPs only)	Provider Reported Eligibility Information	State Review and/or Verification Process
Demonstration of meeting nine of 64 CQMs, with three of the nine CQMs representing three of the six National Quality Strategy (NQS) domains.	Input of Yes/No, numerators/denominators, and/or exclusion, as they apply to each measure.	*Review:* Review completion and system-generated acceptance of all measures and any exclusions.
Attestation to MU of CEHRT	Attestation signed.	*Review:* Ensure attestation is signed, indicating attestation to MU of CEHRT. Electronic signatures and stamps are not accepted.

Table 15 - Stage 1 MU Verification

C.3.9 Regulation Changes Affecting MU Eligibility Requirements for Program Year 2017

As a result of the latest CMS updates, changes were made for Program in 2017 to remain in compliance. See **Table 16** below.

2017 Updates			
Program	**System**	**Policy**	**Audit**
2015-2017 Modifications Rule			
Providers have the option to attest to Stage 3 in 2017. States should describe changes (program, system, policy, audit) being made to be prepared to address the option in 2017. https://www.federalregis ter.gov/d/2015-25595/p- 2152			
NC posted a notice to our program website announcing that Program Year 2017 Stage 3 attestations are being accepted as of 5/1/17.	NC-MIPS began accepting Program Year 2017 Modified Stage 2 MU Stage 3 for NC-MIPS on 5/1/17	NC's Attestation Validation Portal (AVP) was updated to manage validation of Program Year 2017 Stage 3 attestations by Program staff. AVP will display the Program Year and the Stage	NC is currently conducting audits on attestations from program years 2014 and 2015 and plans to begin Program Year 2017 audits in 2019. We will update our audit strategy in 2018 to include auditing Program Year 2017 Stage 3 attestations.
2017 includes updates to the MU objectives and states need to discuss how they will administer attestations that include EHR period that are within 2017. https://www.federalregister.gov/d/2015-25595/p- 2843			
Reporting affected by this requirement will be explained within the attestation guide, which are available from NC-MIPS and our program website as of 5/1/17.	To administer attestations that include EHR periods that are within 2017, NC will ask providers to enter their selected EHR reporting period once prior to entering their MU data. This EHR reporting period is the timeframe that all of the provider's measures were met during, except where otherwise noted by the provider within NC-MIPS. For example, see screenshot A2 (a capture from NC-MIPS), where EPs can enter a	This information will not be appropriate for checks in NC's Attestation Validation Portal (AVP), but validations are applied within NC-MIPS and data reported by program participants related to this requirement will be available for review through NC-MIPS database.	NC is currently conducting audits on attestations from program years 2014 and 2015 and plans to begin Program Year 2017 audits in 2019. We will update our audit strategy in 2018 to include auditing Program Year 2017 attestations.

	different EHR reporting period within the calendar year than entered prior to beginning reporting on objectives.		
OPPS Rule			
Measure calculations were modified to require that actions included in the numerator must occur within the EHR reporting period. States should outline the changes (program, system, policy, audit) they are making to address this requirement. https://www.federalregister.gov/d/2016-26515/p- 3723			
Notice of 90-day reporting period for all providers has been posted to our program website and to the NC-MIPS landing page.	In NC-MIPS, all providers can attest to a 90-day EHR reporting period for Program Year 2017	NC's Attestation Validation Portal (AVP) displays the Program Year and the EHR reporting period.	NC is currently conducting audits on attestations from program years 2014 and 2015 and plans to begin Program Year 2017 audits in 2019. We will update our audit strategy in 2018 to include this change for auditing Program Year 2017 attestations.
NC has posted a notice to our program website regarding the requirement that actions included in the numerator must occur within the EHR reporting period	Development of Program Year 2017 Modified Stage 2 MU and Stage 3 for NC-MIPS was completed 4/30/17 and accounts for the requirement that actions included in the numerator must occur within the EHR reporting period	Program staff have reviewed the modification to measure calculation timeframe. Reporting by EPs on measures and timeframe is done through NC-MIPS, which was updated for 5/1/17 release, to incorporate the modification	NC is currently conducting audits on attestations from program years 2014 and 2015. We will update our audit strategy in 2018 to include the requirement that actions included in the numerator must occur within the EHR reporting period for Program Year 2017
Definition now includes demonstration of supporting information exchange and prevention of information blocking. https://www.federalregister.gov/d/2016-25240/p- 6988			
NC has posted a notice to our program website with the update to the definition of meaningful EHR user	NC-MIPS produces a summary PDF for Program Year 2017 that providers are required to sign to attest that they meet the definition of meaningful EHR user that includes that s/he supports information exchange and the prevention of health information blocking	Ongoing - program staff review each attestation as part of pre-payment validations to be sure it has been signed signifying that the provider attests to meeting the requirements	NC is currently conducting audits on attestations from program years 2014 and 2015. We will update our audit strategy in 2018 to include auditing Program Year 2017 attestations with 2017 requirements including updated definition of meaningful EHR user
NC has posted a notice to our program website explaining that providers are required to attest that they meet the updated definition of meaningful EHR user	For program year 2017, NC-MIPS produces a summary PDF that providers are required to sign to attest that they meet the updated definition of meaningful EHR user	Program staff review each attestation as part of pre-payment validations to be sure it has been signed signifying that the provider attests to meeting the requirements	NC is currently conducting audits on attestations from program years 2014 and 2015. We will update our audit strategy to include auditing Program Year 2017 attestations with 2017 requirements including updated definition of meaningful EHR user

Table 16 - 2017 Changes per the 2015-2017 Modifications and OPPS rules and QPP

C.4 NC Medicaid Incentive Payment System (NC-MIPS)

NC-MIPS is a proprietary system built to collect and verify provider attestation data—including enrollment period, provider type, patient volume, and attestation details—for the purposes of administering the EHR Incentive Program in compliance with the Final Rule. NC-MIPS consists of programs and processes to help ensure EPs and EHs have met the federal and state statutory and regulatory requirements necessary to receive EHR incentive payments.

At a high level, the NC-MIPS workflow is as follows:

1. Receive registration transactions from the CMS R&A
2. Invite and allow EPs/EHs to attest with NC through the NC-MIPS portal
3. Verify information, determine payment eligibility and payment amount
4. Notify the CMS R&A of eligibility status
5. Coordinate with the CMS R&A to avoid duplicate payments and/or payment errors
6. Make payments according to state business rules
7. Return payment information to the CMS R&A

This workflow requires interaction between multiple systems and users. These interactions include:

- Communication with the CMS R&A using FTP-SSL from a server with a CMS-provided certificate, to a secure, assigned Gentran mailbox. NC-MIPS adheres to national data standards for all such data exchanges.
- Communication with the NC-MIPS portal, where providers create an account, enter information for eligibility determination, complete attestation, and track attestation status. See *Appendix 2 - NC-MIPS Portal 2.0 Screenshots*.
- Communication with NCTracks. Prior to July 2013, communication was through the EVC that served providers in parallel with the Legacy MMIS.
- Communication with MMIS to execute the payments once approved.
- Communication with the NC Medicaid claims data warehouse.
- Communication with two user interfaces:
    - Interface 1 - NC-MIPS: used by professionals and hospitals to complete registration, submit attestation data, and view attestation status.
    - Interface 2 – AVP: used by Program staff to process attestations from eligibility determination to payment.

These interactions and relationships are depicted in **Figure 16** and **Figure 17** below.

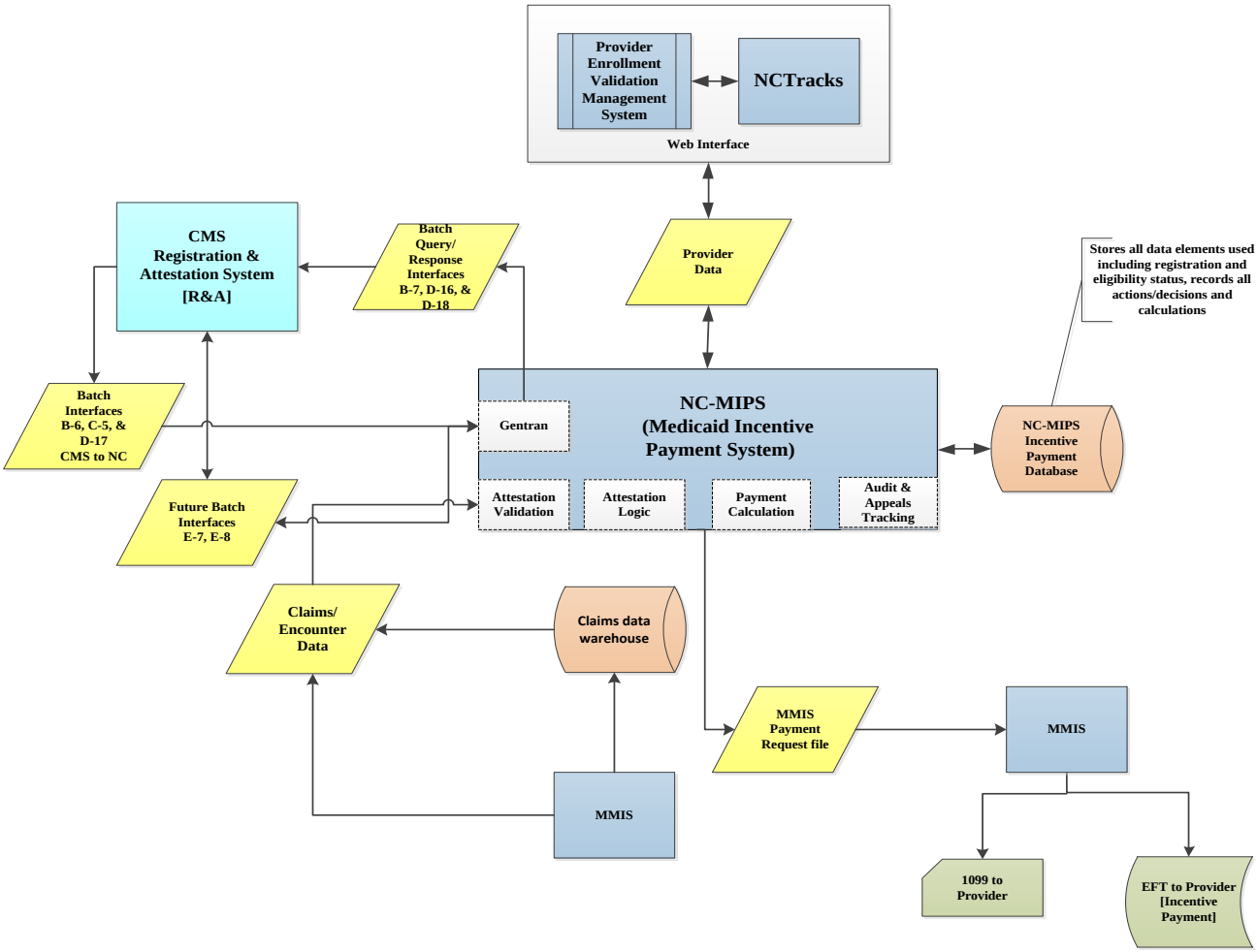


Figure 16 - NC-MIPS Integration

Figure 17 below highlights the interaction of providers with the CMS R&A System and NC-MIPS from registration through notification of a payment decision.

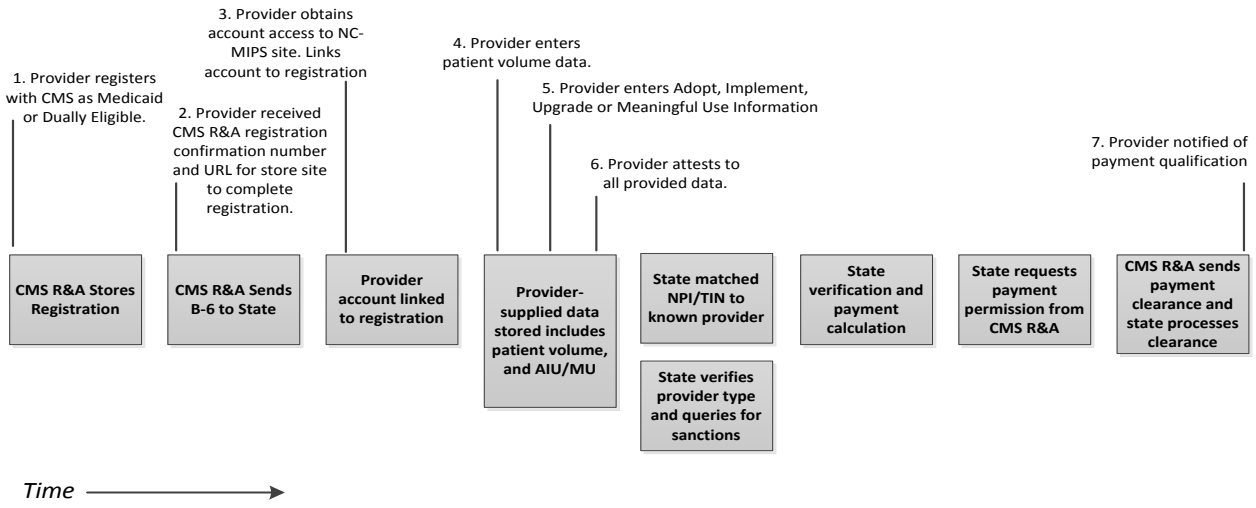


Figure 17 - Provider Interaction with NC-MIPS

Highlights for NC-MIPS development are listed below. In addition, provider communication, system analysis and design, and joint interface testing with CMS precede the milestones laid out here.

2011

- January 1, 2011—Go Live (CMS Registration)
- January 4, 2011—EP Registrations received from CMS
- January 15, 2011—EH Registrations received from CMS
- February 15, 2011—Go Live (NC-MIPS Attestation)
- March 2011—EP Attestations Begin
- March 2011—Go Live (Validation and Payment)
- March 2011—EP Incentive Payments Begin
- September 1, 2011—EH Attestations Begin
- September 31, 2011—EH Reporting Year Ends for FFY 2011
- September 2011—EH Incentive Payments Begin
- November 30, 2011—EH Attestation Deadline for FFY 2011
- December 2011—In excess of $20 Million in Incentive Payments Distributed

2012

Beginning in January 2012, further NC-MIPS development was carried out in-house at OMMISS/DMA by newly added state staff. Early 2012 projects included addition of AIU and MU attestation capability. To accommodate these upgrades, 2012 AIU attestations were accepted through an electronic attestation template in April, May & June. During this time the groundwork for a better attestation validation portal was also underway.

- February 29, 2012—EP Attestation Deadline for CY 2011
- April 1, 2012—Electronic Attestation Template Implementation
- July 23, 2012—Go Live (2012 AIU Attestation through NC-MIPS 2.0)
- August 20, 2012—Go Live (MU Attestation)
- November 30, 2012—Go Live (Replacement Attestation Validation Portal)
- December 2012—In excess of $87 Million in Incentive Payments Distributed

2013

- January 7, 2013—Go Live (Stage 1 MU Eligibility Changes)
- February 18, 2013—Advanced reporting functionalities
- February 18, 2013—Audit Tab
- February 18, 2013—File Upload
- March 15, 2013—Go Live (Stage 1 MU Measure Changes)
- May 15, 2013—Advanced Search
- May 15, 2013—Provider Relations & Provider Relations Lead roles in Attestation Validation
- May 15, 2013—Outreach Tab

2014

- 6/6/2014 – Do not allow providers to do account set-up in MIPS when their B-6 is "IN_PROGRESS".
- 9/19/2014 - Go Live (Stage 1 CQM's. New 64 CQM's in place of Core CQM, Alternate CQM & Additional CQM for MU Attestations for [Program Year 2014]).
- 11/21/2014 - Go Live (Stage 2 MU Measure Changes)

2015

- 1/1/2015—Go Live (Program Year 2015 for EPs)
- 1/30/2015—Go Live (Flexibility Rule for EP's – To accept flexibility rule attestations from 1/30/2015 until the end of the EP attestation tail period, April, 30, 2015.)
- 3/16/2015—Extended tail period deadline from 04/30/2015 for EH [Program Year 2014].
- 5/1/2015—Flexibility Rule ends for EP [Program Year 2014].

2016

- Feb 2016—Go Live (Modified Stage 2 MU Measure Changes)
- March 2016—NCID Username Update Tool
- April 2016 – Close Program Year 2015
- June 2016—Go Live (Program Year 2016 AIU for EPs)
- June 2016—Go Live (Program Year 2016 AIU/MU for EHs)
- July 2016— Go Live (Program Year 2016 MU for EPs)
- September 2016 - Removal of MPN and Billing MPN fields and related text from MIPS and AV Portals.
- September 2016 - Referral rule changes in AV Portal.
- September 2016 – Make system changes in MIPS for Program Year 2017 Modified Stage 2 MU, schedule Go Live May 2017
- October – April 2017 – Make system changes in MIPS for Stage 3, scheduled Go Live May 2017
- December 2016 – Added page to track AHEC utilization

2017 (as of June 2017)

- January – April 2017 – Make system changes in MIPS for Modified Stage 2 and Stage 3 MU
- April 2017 – Close Program Year 2016
- May 2017 – Go Live (Program Year 2017 Modified Stage 2 and Stage 3 MU)

C.4.1 NC-MIPS Activities

Overview

All providers interested in applying for either Medicare or Medicaid incentives under ARRA are required to register first with CMS. EPs must choose to participate in either the Medicare or Medicaid Incentive Program, while EHs may qualify to participate in both programs ("dually eligible"). Once registered with CMS, any EP or EH applying for a Medicaid incentive payment with North Carolina must apply at the state level through NC-MIPS.

Project Management

NC DHHS established OMMISS as a Program Management Office (PMO) to oversee the various HIT projects associated with the Replacement MMIS. NC Tracks, the Replacement MMIS, is a multi-payer initiative with Medicaid, State Children's Health Insurance Program (SCHIP), Public Health, Rural Health, and MH/DD/SAS. The projects that were part of this effort included the MMIS Replacement, decision support and health informatics, surveillance and utility review, the MITA State Self-Assessment, initial NC SMHP development, and development of NC-MIPS 1.0.

Under the executive sponsorship of the NC Medicaid Director, OMMISS was directly responsible for the design, development, testing, and implementation of NC-MIPS until April 1, 2012. OMMISS was responsible for overseeing NC-MIPS Operations, planning and coordinating activities with the Medicaid Enrollment Service Center and DMA, and maintaining the necessary processes and staffing to properly support the program as outlined below in the Functional Requirements. Since April 1,2012, NC-MIPS' development activities have been done in-house.

Functional Requirements

There are six major functions required for the administration of incentive payments through the NC Medicaid EHR Incentive Program.

1. Registration

CMS currently provides a mechanism for EPs and EHs to register for the EHR Incentive Programs at the national level through the CMS R&A. Registration information is then collected and stored by CMS, and is sent via a B-6 transaction to North Carolina for any EP or EH who has indicated that they would like to participate in the NC Medicaid EHR Incentive Program.

2. Attestation and Qualification

After registration with CMS, NC must collect and analyze information from EPs and EHs to verify they are eligible to receive incentive payments. To qualify for payment in the first year of participation, CMS and NC collected attestations regarding the adoption, implementation, or upgrade to CEHRT; in subsequent participation years, providers must demonstrate MU of that CEHRT. To demonstrate MU of CEHRT, CMS will collect attestations from Medicare participants and dually eligible EHs and states will collect attestations from Medicaid-only participants. Dually-eligible NC EHs that successfully attest with Medicare will be deemed eligible to receive a NC Medicaid payment; in these cases, CMS will send the EH attestation data to NC via a C-5 transaction.

Program staff verifies attested data through a series of validation checks. Upon successful attestation and validation, NC checks with CMS before granting final approval to pay the specific EP or EH via a D-16 transaction and CMS confirms approval to pay via a D-16 response file.

3. Payment and Settlement

Although it has been determined that NC-MIPS is correctly calculating incentive payments for EPs, Program staff continue to perform some manual steps to verify the accuracy of payment calculations and assignments. In

addition, checks are in place to ensure that maximum payment amounts are not exceeded and duplicate payments are not issued.

CMS provides funding to NC for the incentive payments. After qualification is determined and CMS has issued final approval, NC delivers the incentive payments to the EH or EP and notifies CMS that payment has been issued. In the case where a provider owes a balance to Medicaid, that amount is withheld from the provider's incentive payment.

Payments are made every other week through the MMIS system via electronic funds transfer (now the required method of payment for all Medicaid providers).

4. Management of Post-Payment Operations

NC manages an appeals process that parallels the current process for provider claim payments. The categories for appeal are:

- Denial of incentive payment due to ineligibility;
- Appeal of incentive payment amount; and,
- Denial based on failure to demonstrate AIU or MU of CEHRT.

Providers can appeal a payment decision to prove that the attestation submitted as of the close of the tail period did in fact demonstrate that they met all eligibility requirements and did adopt/implement/upgrade or meaningfully use CEHRT.

The auditing function, as described in the NC Medicaid EHR Program Audit Strategy will implement pre- and post-payment controls to prevent and detect fraud, waste, and abuse.

There are three tenets of the DMA audit approach related to the EHR Incentive Program:

1. DMA will avoid making improper payments by ensuring that payments only go to EPs and EHs, and that payments meet all incentive funding requirements.
2. DMA will review and validate demonstration of MU of CEHRT through a combination of validation activities before payments are disbursed and selective audits after payments are disbursed.
3. DMA will prevent and/or identify suspected fraud and abuse through data analysis and selected provider audits.

Post-payment audit functions focus on:

- Provider Eligibility: verification that providers are Medicaid providers, credentialed, not sanctioned, practicing predominantly in an FQHC/RHCs (for those using needy individual patient volume), and are one of the eligible provider types recognized by CMS under the EHR Incentive Program regulations;
- Patient Volume: audit of attested Medicaid and total patient volumes, including use of patient-level data such as claims;
- Adopt, implement, or upgrade: audit that one of these three actions was accomplished with a CEHRT; and,
- Meaningful use: audit that all required MU objectives were met.

Post-payment operations are tracked in the attestation validation portal.

5. Provider Support

The NC Medicaid EHR Incentive Program has a dedicated help desk to answer provider questions and assist with the attestation process. Also, DMA contracts with NC AHEC to provide in-practice technical assistance with meaningful use, attesting for the Program, and other HIT initiatives. EH and EP-specific Attestation Guides have

been developed to walk providers through an attestation on the NC-MIPS Portal, and extensive guidance on the Program is available on the Program's website, which is managed in-house by the Program's communication specialist.

In order to achieve a successful program implementation with NC providers, the Program team's communication specialist developed a comprehensive Communication Plan (available upon request). The plan includes analysis and recommendations for provider outreach, including a host of methods to communicate with providers about the state's plans and resources to assist in EHR acquisition and implementation and to provide information about the necessary registration and attestation process to receive incentive payments.

6. Reporting

Though not required by the HITECH Act (as required by CMS for Medicare incentives) NC does post the names of Medicaid EPs and EHs that received incentive payments to the Program website. This spreadsheet is posted following the date of the biweekly checkwrite.

The NC-MIPS2 database is used for CMS reports such as quarterly reports and the annual report.

Technical Requirements

NC-MIPS is a stand-alone system that ingests information from providers and from the NC- MIPS2 database. NC-MIPS is maintained in-house by the Program's development team.

Phases of NC-MIPS

To enable the state to meet aggressive deadlines for interface testing with CMS, to accommodate requirements and technical details that are constantly dynamic, and to allow providers to attest for, and receive, incentive payments as soon as possible in 2011, the design and development of the NC-MIPS sub-system was broken down into phases.

Phase 1 - NC-MIPS 1.0

NC-MIPS 1.0 was launched in January 2011, and allowed providers to register with NC-MIPS. This release also included the functionalities necessary to interface with the CMS R&A through the B-6 and B-7 interfaces. A March 2011 update allowed providers to attest to AIU of CEHRT as outlined in the Stage 1 Final Rule. This included the establishment of a provider portal that allowed for annual attestation and tracking attestation and payment status, as well as deployment of the D-16 and D-18 interfaces with the CMS R&A. In September 2011, the level of automation involved in the attestation validation functionality was augmented.

Phase 2 – NC-MIPS 2.0

NC-MIPS 2.0 included several upgrades and was deployed in various releases in 2012. This phase allowed MU reporting and enhanced attestation workflow functionality. In 2013 and 2014, NC-MIPS was upgraded to comply with the Stage 2 Final Rule. In 2015 and 2016, upgrades were made to comply with the October 2015 Final Rule and providers were able to attest for Modified Stage 2 MU in February 2016. In 2017, NC-MIPS was upgraded to comply with the 2015-2017 Modifications Rule, OPPS Rule, and QPP.

NC-MIPS is maintained by the NC Medicaid EHR Incentive Program's in-house development team (currently a mix of state employees and contractors). The Program will continue to add system features to accommodate changing federal regulations and enhancement needs.

System Life

Routine operations, maintenance, and system updates will be conducted throughout the life of the system. NC-MIPS will be supported through the life of the Medicaid EHR Incentive Program. Prior to 2021, plans for its decommissioning will be developed.

C.4.2 Interface with CMS' Registration & Attestation System

The CMS R&A stores data and controls interfaces necessary to implement the EHR Incentive Programs at the national level. North Carolina and other states use the CMS R&A to coordinate Medicaid EHR Incentive Program activities with CMS. This coordination is managed through specifications laid out in CMS Interface Control documents. NC participates by using the following defined interfaces:

- ***Interface B-6 (the CMS R&A to State): Provider Registration Data***
  All EPs and EHs applying for incentives must first register with the CMS R&A. With minor variations based on provider type, the CMS R&A captures basic information such as demographics, payee information, and program selection (Medicare, Medicaid, or both). It checks for valid National Provider Identifier (NPI), hospital CMS Certification Number (CCN), Tax Identification Number (TIN), and any sanctions. Professionals opting to attest with Medicaid and hospitals opting to attest with Medicaid or claiming dual Medicaid/Medicare eligibility are passed to the state as part of a daily registration batch B-6 transaction if they have no federal sanctions.
  During the registration process, CMS supplies the professional or hospital with a URL to their state's attestation website which will permit continuation of the registration and attestation process. Providers are instructed to check the website after two business days, providing time for the CMS R&A to communicate to the state and for the state to process the registration.
- ***Interface B-7 (State to the CMS R&A): Registration Confirmation D***ata
  After a B-6 is processed and the provider enters registration data, patient volume data, and MU data (when applicable), eligibility response is returned from the state to the CMS R&A. If the provider is not found in the state's registry of professionals and hospitals, or if any other verification fails, the CMS R&A is notified that the provider is not eligible. Eligibility responses are communicated to the CMS R&A in bi-weekly registration B-7 response batches.
- ***Interface C-5 (CMS R&A to State): Dually EH Attestation Data***
  For EHs who choose to participate in both the Medicare and Medicaid EHR Incentive Programs (those who are "dually eligible"), CMS sends Medicare attestation data to the states from the CMS R&A.
- ***Interface D-16 (State to CMS' R&A): Duplicate Payment Exclusion Check***
  To avoid duplicate payments and making payments to federally sanctioned professionals and hospitals, the Program notifies the CMS R&A when it intends to make a payment. These notifications are performed in accordance with specifications in the CMS Interface Control document. Payments are not made until a response from the CMS R&A is received. The state assumes that the CMS R&A will lock the specific provider records before sending the response back to the state, and that the lock will remain in effect until the state notifies the CMS R&A that payment has been issued.
- ***Interface D-17 (State to the CMS R&A): Dually EH Cost Report Data***
  The Program receives the D-17 but uses the Medicaid hospital cost report submitted directly to NC by the hospital provider for hospital cost report information. The Program requires that the provider submit a signed certification of the Medicaid cost report data submitted to NC. All of the Program's reviews and calculations for EHR incentive payments are done using this certified cost reporting data.
- ***Interface D-18 (State to CMS R&A): Incentive Payment Data***
  NC-MIPS transmits payment details to the CMS R&A as specified in the CMS Interface Control Document after a payment has been made. To support the interfaces, NC configured Windows Service to invoke a FTPS client (curl) to connect to the CMS Gentran server farm to send and retrieve the appropriate files

on a biweekly basis during a configurable window. A combination of certificates and username/password credentials ensures the connection is appropriately made with the FTPS protocol, and ensures the data is transported securely. If the file has not been found at CMS or is unable to be sent to CMS by a configurable number of minutes after the end of the scheduled window, an exception is raised to operations to conduct follow up.

Upon receipt of a file, North Carolina:

- Uses material specified in the CMS Interface Control document to determine how the file should be processed;
- Validates the file retrieved against the XML schema provided in the CMS Interface Control document;
- Performs a series of additional validations to ensure the file integrity (e.g., verify transaction count, that files are not being processed out of order, etc.); and,
- Individually processes the transactions.

As one of the initial testing partners with CMS, in 2011 North Carolina successfully tested connectivity and the ability to send and retrieve files using the methodology described above.

C.4.3 NC-MIPS and Other Systems

The business processes associated with the NC Medicaid EHR Incentive Program are largely distinct from other Medicaid business processes, and NC-MIPS is a standalone system that providers use to attest for the EHR Incentive Program, as is the Program's internal Attestation Validation Portal (AVP). However, the Program is proposing a plan to interface the NC-MIPS2 database with NCTracks to process incentive payments (see IAPD FFY 2018 update).

NCAnalytics Data Warehouse

The Program's data analyst utilizes the Medicaid claims data warehouse, called the NCAnalytics Data Warehouse, to validate the Medicaid patient volume requirement for both EPs and EHs. Where there is a discrepancy between provider-supplied and claims data warehouse data, the provider relations lead performs outreach to attempt to determine eligibility if time allows prior to the close of the program year. As eligibility determinations are made, snapshots of relevant summary claims data are maintained in NC-MIPS for audit purposes.

NCTracks

Incentive payments are made through NCTracks, the replacement MMIS, in the same mode as other Medicaid financial processing, on the check-write cycle for claims. This cycle distributes incentive payments via electronic funds transfer (EFT) every two weeks when prompted by the Program. The proposed automation process will create a connection between the NC-MIPS2 database and NCTracks so that NCTracks will pull a formatted file from the NC-MIPS2 database and consume and process the records for payment. NCTracks will automatically screen for invalid records, such as those with an inactive payee NPI, and push an error notice back to the NC-MIPS2 database. A completed payment file will be pushed from NCTracks to the NC-MIPS2 database after EFT. This automated process will replace the current manual process where each record is reviewed by the Program's budget specialist and entered by NCTracks staff. The automated process will eliminate keying errors and allow the Program to issue payments with an estimated savings of 30 percent of the salary costs for the Program's budget specialist. See Appendix G of the July 2017 update of the HIT IAPD for details.

C.5 Attestation and Payment

Providers must attest that all the data supplied to the state is accurate prior to payment. The attestation finalizes the verifications described in *Section C.3: NC Medicaid EHR Incentive Program Business Requirements* to ensure

compliance with CMS' Final Rule conditions for receiving incentive payments. The steps required to complete the incentive payment process include:

- Attestation;
- Calculating the payment amount;
- Coordinating with the CMS R&A, as described in *Section C.4.2: Interface with CMS' Registration & Attestation System;* and,
- Following state payment processes.

C.5.1 Attestation

After provider data has been collected, providers attest to the veracity of the information provided and their qualification according to program rules. Providers must print their attestation PDF from NC-MIPS and manually sign to verify the information reported through NC-MIPS and to acknowledge the statements below.

The Final Rule lists five statements that providers participating in the Medicaid EHR Incentive programs must attest to for EHR reporting periods beginning in 2017:

With my signature below, I attest that I

1. Acknowledge the requirement to cooperate in good faith with ONC direct review of my health information technology certified under the ONC Health IT Certification Program if a request to assist in ONC direct review is received; and
2. If requested, cooperated in good faith with ONC direct review of my health information technology certified under the ONC Health IT Certification Program as authorized by 45 CFR part 170, subpart E, to the extent that such technology meets (or can be used to meet) the definition of CEHRT, including by permitting timely access to such technology and demonstrating its capabilities as implemented and used by the EP in the field.
3. Did not knowingly and willfully take action (such as to disable functionality) to limit or restrict the compatibility or interoperability of certified EHR technology.
4. Implemented technologies, standards, policies, practices, and agreements reasonably calculated to ensure, to the greatest extent practicable and permitted by law, that the certified EHR technology was, at all relevant times—
    a. Connected in accordance with applicable law;
    b. Compliant with all standards applicable to the exchange of information, including the standards, implementation specifications, and certification criteria adopted at 45 CFR part 170;
    c. Implemented in a manner that allowed for timely access by patients to their electronic health information; and
    d. Implemented in a manner that allowed for the timely, secure, and trusted bi-directional exchange of structured electronic health information with other health care providers (as defined by 42 U.S.C. 300jj(3)), including unaffiliated providers, and with disparate certified EHR technology and vendors.
5. Responded in good faith and in a timely manner to requests to retrieve or exchange electronic health information, including from patients, health care providers (as defined by 42 U.S.C. 300jj(3)), and other persons, regardless of the requestor's affiliation or technology vendor.

The attestation process also requires EPs and EHs to acknowledge this warning of the potential for prosecution and the ramifications if an EP fails a post-payment audit:

> Concealment or falsification of material facts regarding incentive payments can result in Medicaid Provider Payment suspension, civil prosecution pursuant to the False Claims Act (31 USC 3729-3733), Medical Assistance Provider Fraud (N.C.G.S. 108A-63), Medical Assistance Provider False Claims Act (N.C.G.S. 108A-70.10 to 70-16), the North Carolina False Claims Act (N.C.G.S. 1-605 to 1-618), and/or criminal prosecution pursuant to criminal fraud statutes of North Carolina.
>
> This is to certify that the foregoing information is true, accurate and complete. I understand that Medicaid EHR incentive payments submitted under this provider number will be from Federal funds, and that any falsification, or concealment of a material fact may be prosecuted under Federal and State law.
>
> I will keep all documentation, including patient-level detail, supporting the information attested to for six years from the date payment is received. I understand that if I fail post-payment audit and the payment is recouped, I am personally responsible for returning the incentive payment regardless of who received the payment.

The provider must manually sign – electronic signatures and stamps are not accepted – to ensure the practice did not attest on behalf of the provider without the provider's consent.

C.5.2 Payment Calculation for Eligible Professionals

Once an EP is deemed eligible to receive an incentive payment, that EP or their designated payee is paid in accordance with the amounts and schedule set forth by CMS. CMS has stipulated standard incentive payment amounts and a schedule for their distribution for all EPs participating in the Medicaid EHR Incentive Program based on a model of sharing the cost of implementing CEHRT.

The maximum total incentive available for an EP over six years of participation in the program is $63,750. The maximum total incentive available for a pediatrician qualifying under the special 20 percent Medicaid patient volume rule for all participation years is $42,500. Pediatricians who dip in and out of the 30 percent Medicaid patient volume threshold may receive between $42,500 and $63,750 over the course of their participation in the program.

Payment Year	**EP qualifying under 30 percent Medicaid patient volume**	**Pediatrician qualifying under 20 percent Medicaid patient volume rule**
Year 1	$21,250	$14, 167
Year 2	$8,500	$5,667
Year 3	$8,500	$5,667
Year 4	$8,500	$5,667
Year 5	$8,500	$5,667
Year 6	$8,500	$5,667
Total Incentive Payment Amount	**$63,750**	**$42,500**

Table 17 - Payment Schedule for EPs

Medicaid providers are not required to participate on a consecutive, annual basis; however, the last year an EP was able to begin participating was Program Year 2016, with the program ending in Program Year 2021. Unlike Medicare, the NC Medicaid EHR Incentive Program does not include a future reimbursement rate reduction for claims submitted by non-participating Medicaid providers.

C.5.3 Payment Calculation for Eligible Hospitals

Pursuant to the Final Rule 75 FR 44314, payment to EHs are based on discharges using the average annual growth rate for an individual hospital over the most recent three years of available data from an auditable data source. As a standard, North Carolina has adopted the use of four consecutive periods of full 12-month Medicaid cost report data under a single CCN to calculate an average annual growth rate over three years. Attestation of cost report data must correspond to the Medicare CCN number registered with CMS for the EH submitting the attestation.

Definitions:

- First Payment Year: 75 FR 44314 defines an EHs First Payment Year as the first federal fiscal year they successfully demonstrate that they adopted, implemented, or upgraded CEHRT or were a meaningful user of CEHRT for the EHR reporting period for the payment year. EHs must review their number of consecutive 12-month Medicaid cost reporting periods under a single CCN in accordance with provisions below to determine their eligible First Payment Year under the standard payment calculation (see *Section C.5.3.1 Standard Payment Calculation*) or alternate payment calculation (see *Section C.5.3.2 Alternate Payment Calculation*).
- Base Year: North Carolina defines an EH's Base Year as the "EHR reporting period for the first payment year." The Base Year represents the most recent continuous 12-month period coinciding with the hospital's latest filed 12-month Medicaid cost report that is available prior to the EH's First Payment Year.
    - Example: FFY12 begins on October 1, 2011 and ends on September 30, 2012. EHs whose First Payment Year is FFY12, with 12-month cost reporting periods ending on or before September 30, 2011, must use their FY11 (or latest filed) cost report as their Base Year. EHs with 12-month cost reporting periods ending on or after October 1, 2011 must use their FY10 (or latest filed) Medicaid cost report as their Base Year. Once a Base Year is determined, it does not change under standard payment calculation (see *Section C.5.3.1: Standard Payment Calculation*) or alternate payment calculation (see *Section C.5.3.2: Alternate Payment Calculation*.)
- Tail Period: For 2011, the NC Medicaid EHR Incentive Program matched Medicare's 60-day tail period. In 2012, we extended the tail period to 120 days to account for a delay in launch of MIPS 2.0 and MU attestation. From 2013 and beyond, we have proposed a 120-day tail period matching EPs for consistency. The 120-day tail period will also allow providers more time to attest for 365 days of MU, as they will only be able to attest during the tail period for a 365-day MU payment. For example, program year 2017 attestations may be submitted through April 30, 2018.

The following steps are used to determine the NC Medicaid EHR Incentive Payment for EHs with four or more consecutive 12-month cost reporting periods under a single CCN. If a provider has less than four consecutive 12-month cost reporting periods under a single CCN or has had a new enrollment, change of ownership (CHOW), merger, or divestiture of acute care inpatient beds, refer to *Section C.5.3.2: Alternate Payment Calculation* for the EH payment calculation.

C.5.3.1 Standard Payment Calculation

Step 1: Determine the Average Annual Growth Rate for the last three years

The average annual growth will be computed by averaging the annual percentage change in total patient discharges over the most recent three years of available data from 12-month hospital cost reports (MCRIF32) prior to the most current fiscal year. This information will be obtained from Total Patient discharge amounts in worksheet S-3, Part I, Line 12, Col 15 for the applicable FYs at the time of the calculation.

Example:

Total Patient discharges in worksheet S-3, Part I, Line 12, Col 15 for FY 2010, 2009, 2008, 2007 are shown in the chart below.

DGY3, DGY2, DGY1 will represent Discharge Growth 3 years ago, 2 years ago, and prior year respectively.
DGY3 = (Total Discharges FY08 – Total Discharges FY07)/Total Discharges FY07
DGY2 = (Total Discharges FY09 – Total Discharges FY08)/Total Discharges FY08

DGY1 = (Total Discharges FY10 – Total Discharges FY09)/Total Discharges FY09
Average Annual Growth rate = (DGY3+DGY2+DGY1) / 3

Total Discharges	FYB	FYE	W/S S-3, Part I, Line 12, Col 15	Prior Year	Current Year	Increase / (Decrease)	Growth Rate
3rd Prior Year	10/1/2006	9/30/2007	7,246				
2nd Prior Year	10/1/2007	9/30/2008	6,657	7,246	6,657	(589)	-8.1286%
1st Prior Year	10/1/2008	9/30/2009	5,720	6,657	5,720	(937)	-14.0754%
Current	10/1/2009	9/30/2010	5,456	5,720	5,456	(264)	-4.6154%
				Total Increase / (Decrease)			-26.8194%
				Average 3 Year Growth Rate			**-8.9398%**

Table 18 - Hospital Calculation Growth Rate Example

In this example, when FY 2011 data becomes available, FY 2007 data would not be used and FY 2011, 2010, 2009, and 2008 cost report data would be used.

Note that if the average annual growth rate is negative over the three-year period, it is applied as such.

Step 2a: Determine Projected Total Discharges

North Carolina will utilize the most recent year 12-month period hospital cost report data from MCRIF32 and the Annual Average Growth Rate from Step 1 to project Total Discharges for Year 2, Year 3, and Year 4. Projected Discharge figures will be rounded to the nearest whole number.

Current Year – The Data Source is worksheet S-3 Part 1, Line 12, Col. 15
Example: 5,456 Current Year Total Discharges

Year 2 Projected = [Number of discharges in Current Year * (1 + Average Annual Growth Rate)]
Example: [5,456 * (1 + (-0.089398)] = 4,968

Year 3 Projected = [Year 2 Projected * (1 + Average Annual Growth Rate)]
Example: [4,968 *(1 + (-0.089398)] = 4,524

Year 4 Projected = Year 3 Projected * (1+ Average Annual Growth Rate)
Example: [4,524 * (1 + (-0.089398)] = 4,120

Step 2b: Calculating the Total Discharge Related Amount

The Overall EHR Amount includes a discharge related amount of an additional $200 per projected discharges between 1,150 and 23,000 discharges. No amount is calculated for discharges prior to the 1,150th discharge or for discharges after the 23,000th discharge.

The following formula will be utilized to calculate the discharge related amount for years 1 through 4:

Discharge related amount for Year 1 = (Current Year Projected Discharges under 23,000 – 1149) * $200
Discharge related amount for Year 2 = (Year 2 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 3 = (Year 3 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 4 = (Year 4 projected discharges under 23,000 – 1149) * $200

Year	Per Discharge Amount	Projected Total Discharges	Disallowed Discharges	Allowable Discharges	Amount
Year 1	$200	5,456	1,149	4,307	$861,400
Year 2	$200	4,968	1,149	3,819	$763,800
Year 3	$200	4,524	1,149	3,375	$675,000
Year 4	$200	4,120	1,149	2,971	$594,200
Total Discharge Related Amount					**$2,894,400**

Table 19 - Hospital Calculation Total Discharge Amount Example

Step 3: Calculate the Initial EHR Amount for 4 Years

The Initial Amount is equal to a base amount of $2,000,000 + the Total Discharge related amount for each year.

Calculate Initial Amount	Year 1	Year 2	Year 3	Year 4
Base Amount	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Discharge Related Amount	$861,400	$763,800	$675,000	$594,200
Aggregate EHR Amount	$2,861,400	$2,763,800	$2,675,000	$2,594,200

Table 20 - Hospital Calculation Aggregate EHR Amount Example

Step 4: Apply the Medicaid Transition Factor for Each of the 4 Years

Transition Factor Year 1 = 1.00
Transition Factor Year 2 = 0.75

Transition Factor Year 3 = 0.50
Transition Factor Year 4 = 0.25

	Year 1	Year 2	Year 3	Year 4
Aggregate EHR	$ 2,861,400	$ 2,763,800	$ 2,675,000	$ 2,594,200
Transition Factor	1.00	0.75	0.50	0.25
Applied Amount	$ 2,861,400	$ 2,072,850	$ 1,337,500	$ 648,550

Table 21 - Hospital Calculation Medicaid Transition Factor Example

Step 5: Calculate the Overall EHR Amount for 4 Years

Add the Aggregate EHR Amount for all four years after application of the Transition Factor.

Payment Year	Payment Amount
Year 1	$ 2,861,400
Year 2	$ 2,072,850
Year 3	$ 1,337,500
Year 4	$ 648,550
Total	**$ 6,920,300**

Table 22 - Hospital Calculation Overall EHR Amount Example

Step 6: Calculate the Medicaid Share of the Overall EHR Amount for 4 Years

The Medicaid share shall be calculated using the most current 12-month period from the hospital cost report data on MCRIF32.

The Medicaid share will be calculated as the numerator (M + N) divided by the denominator (P times the product of Q minus R divided by Q)

– Numerator = **M + N**

M = Number of paid Medicaid inpatient-bed days; if the qualifying cost report is in the CMS 2552-96 version, the source for this data element is worksheet S-3, Part I, Col 5, Line 1 plus Lines 6 through 10 of most recent fiscal year cost report. If the qualifying cost report is in the CMS 2552-10 version for 12-month cost report periods beginning on or after May 1, 2010, the source for paid Medicaid inpatient bed-days will be Worksheet S-3, Part I, Col 7, Line 1 plus Lines 8 through 12.

N = Number of paid inpatient-bed-days of Medicaid individuals enrolled in a managed care organization, a pre-paid inpatient health plan, or a pre-paid ambulatory health plan; if the qualifying cost report is in the CMS 2552-96 version, the source for this data element is worksheet S-3, Part I, Col 5, Line 2 of most recent fiscal year cost report. If the qualifying cost report is in the CMS 2552-10 version for 12-month cost report periods beginning on or after May 1, 2010, the source for paid Medicaid HMO inpatient bed days will be Worksheet S-3, Part I, Col 7, Line 2. If the cost report sources identified in this paragraph for paid HMO inpatient days contain days other than

paid Medicaid HMO inpatient bed days, the provider must extract only those days which are paid Medicaid HMO inpatient bed days or paid out-of-state Medicaid inpatient bed days.

– Denominator = **P *((Q – R) / Q)**

P = Total amount of EHs' inpatient bed days over selected period; if the qualifying cost report is the CMS 2552-96 version, the source is worksheet S-3, Part I, Col 6, Line 1, plus Line 2 plus Lines 6 through 10 of most recent fiscal year cost report. If the qualifying cost report is the CMS 2552-10 version for 12-month cost report periods beginning on or after May 1, 2010, the source for total inpatient bed days will be Worksheet S-3, Part I, Col 8, Line 1 plus Line 2 plus Lines 8 through 12.

Q = Total amount of EH's charges; if the qualifying cost report is the CMS 2552-96 version, the source is worksheet C, Part I, Line 101, Col. 8 of most recent fiscal year cost report. If the qualifying cost report is the CMS 2552-10 version for 12-month cost report periods beginning on or after May 1, 2010, the source for total eligible charges will be Worksheet C, Part I, Line 200, Col 8.

R = Charges attributable to charity care; if the qualifying cost report is the CMS 2552-96 version, the source is the EH Attestation. If the qualifying cost report is the CMS 2552-10 version for 12-month cost report periods beginning on or after May 1, 2010, the source will be Worksheet S-10, Column 3, Line 20.

M	Total Paid Medicaid Inpatient Bed Days	2,749
N	Total Paid Medicaid Managed Care Inpatient Bed Days	0
Numerator (M+N)	Total Paid Medicaid and Managed Care Inpatient Days	2,749
Q	Total Hospital Charges	232,903,632
R	Total Charity Care / Uncompensated Care Charges	4,767,979
Q minus R	Total Hospital Charges Less Charity Care Charges	228,135,653
Q-R/Q	Non - Charity Care Percentage	0.979528104
P	Total Hospital Inpatient Bed Days	22,621
Denominator	Total Non-Charity Hospital Inpatient Bed Days	22,158
Medicaid Share		**0.124064074**

Table 23 - Hospital Calculation Medicaid Share Example

Step 7: Calculate the Medicaid Aggregate EHR Incentive Payment Amount

Aggregate EHR payment = Medicaid Share (Step 6) * Overall EHR Amount (Step 5)

Overall EHR Amount for 4 Years	$ 6,920,300
Medicaid Share	0.124064074
Medicaid Aggregate EHR Incentive Payment Amount (to be paid over a 3-year period)	**$ 858,560.61**

Table 24 - Hospital Calculation Aggregate Share Example

Step 8: Calculate the Annual EHR Incentive Payment Amount

Payments will be made over a three-year period for the Overall EHR amount with Year 1 payment at 50 percent, Year 2 payment at 40 percent, and Year 3 payment at 10 percent.

Payment Year	Percentage	Payment
Year 1 Payment	50%	$ 429,280.31
Year 2 Payment	40%	$ 343,424.24
Year 3 Payment	10%	$ 85,856.06
Year 4 Payment	0%	$ 0
Total		**$ 858,561.61**

Table 25 - Hospital Calculation Annual EHR Incentive Payment Example

C.5.3.2 Alternate Payment Calculation

Below is the payment calculation for EHs with less than four consecutive 12-month cost reporting periods under a single CCN (new provider, CHOW, merger, or divestiture of acute care inpatient beds).

EHs with less than four consecutive 12-month cost reporting periods under a single CCN must have a minimum of two consecutive 12-month cost reporting periods under a single CCN, subject to the provisions in this section regarding new providers, CHOWs, mergers, and divestitures before they can attest for a first payment year. The minimum two consecutive 12-month cost reporting periods under a single CCN must be full cost reporting periods which occur after the cost reporting year in which the new enrollment, CHOW, merger, or divestiture occurred. For example, an EH has a September 30th year-end cost report period but changed ownership July 1, 2008. The new owner must use the two cost reporting periods of October 1, 2008 – September 30, 2009 and October 1, 2009 - September 30, 2010 as the minimum consecutive full 12-month cost reporting periods. Assuming the EH met all other eligibility requirements, they could attest in 2011 for their First Payment Year and use their FY10 cost report as the Base Year. The cost reporting period ended September 30, 2008 (and earlier) may not be included in the alternate payment calculation.

The First Payment Year calculation will be made using the EH's Base Year cost report data and an Average Annual Growth Rate calculated from the (minimum) two consecutive full 12-month cost reporting periods. The Second Payment Year calculation will use the third consecutive full 12-month cost report discharge data to revise the Average Annual Growth Rate. Base Year data shall remain unchanged. Any change in the Aggregate Medicaid EHR Incentive Payment Amount calculation based on the revised Average Annual Growth Rate will be adjusted in the Second Payment Year amount.

First Payment Year and the EH's corresponding Base Year are defined in *Section C.5.3 Payment Calculation for EHs*.

If a hospital is eligible for 2011 as their First Payment Year under the Alternate Payment Calculation, then the tail period defined in *Section C.5.3: Payment Calculation for EHs* applies if the hospital attested between October 1, 2011 and January 28, 2012.

Attestation of cost report data must correspond to the Medicare CCN number registered with CMS for the EH submitting the attestation.

New hospital providers with less than four consecutive 12-month cost reporting periods under their new CCN shall have the EH payment calculation in accordance with *Section C.5.3.2: Alternate Payment Calculation*.

CHOWs shall be defined by 42 C.F.R §489.18.

If a hospital provider has a CHOW which does not result in a change of CCN, and the hospital has four or more consecutive full 12-month cost report periods, the provider shall have the EH payment calculation in accordance with *Section C.5.3: Payment Calculation for EHs*, notwithstanding the provisions below for hospitals with mergers and divestitures.

Hospitals who have a CHOW resulting in a change of CCN shall follow the EH payment calculation in accordance with *Section C.5.3.2: Alternate Payment Calculation*.

Mergers are identified in 42 CFR 489.18 and may not result in the change of CCN for the provider absorbing the merged hospital acute care inpatient beds; however, such a merger of acute care inpatient beds will disproportionately skew the calculation of the Average Annual Growth Rate in the year of merger and the subsequent cost report period. Hospitals that have absorbed a merged hospital and have not had a change in CCN shall have the EH payment calculation in accordance with *Section C.5.3.2: Alternate Payment Calculation*.

For purposes of this document, divestitures are deemed to be hospitals which have divested of one or more licensed acute care beds from their CCN without a change of CCN; this reduction of beds is shown in the hospital's license from Division of Health Service Regulation. Such a divestiture will disproportionately skew the calculation of the Average Annual Growth Rate in the year of divestiture and the subsequent cost report period. Hospitals that have divested of acute care inpatient beds and have not had a change in CCN shall have the EH payment calculation in accordance with *Section C.5.3.2: Alternate Payment Calculation*.

The following steps for Year 1 and Year 2 will be used to determine the North Carolina Medicaid EHR Incentive Payment for EHs that have less than four consecutive full 12-month cost report periods under a single CCN.

Alternate Payment Calculation - Year 1

Step 1 (Year 1): Determine the Estimated Average Annual Growth Rate

The estimated Average Annual Growth Rate will be computed by averaging the annual percentage change in total patient discharges from the most recent two years of available data from the 12-month hospital cost reports (MCRIF32) prior to the First Payment Year. The two full 12-month cost report periods necessary to perform this calculation must be the two full 12-month cost report periods subsequent to the new enrollment, CHOW, merger or divestiture as described above. The 12-month cost report period in which the new enrollment, CHOW, merger, or divestiture occurred may not be used. This information will be obtained from Total Patient discharge amounts in worksheet S-3, Part I, Line 12, Col 15 for the applicable FYs at the time of the calculation.

Example:

Total Patient discharges in worksheet S-3, Part I, Line 12, Col 15 for FY 2011, 2010 are shown in the chart below.

DGY3, DGY2, DGY1 will represent Discharge Growth 3 years ago, 2 years ago, and prior year respectively.
DGY3 = N/A
DGY2 = N/A
DGY1 = (Total Discharges FY11-Total Discharges FY10)/Total Discharges FY10
Average Annual Growth Rate = (DGY1)

Total Discharges	FYB	FYE	W/S S-3, Part I, Line 12, Col 15	Prior Year	Current Year	Increase / (Decrease)	Growth Rate
3rd Prior Year	N/A	N/A	N/A				
2nd Prior Year	N/A	N/A	N/A	N/A	N/A	N/A)	N/A
1st Prior Year	10/1/2009	9/30/2010	8,230	N/A	N/A	N/A	N/A
Base Year	10/1/2010	9/30/2011	8,179	8,230	8,179	(51)	-0.6197%
				Total Increase / (Decrease)			-0.6197%
				Average Annual Growth Rate			**-0.6197%**

Table 26 - Alternate Hospital Calculation Growth Rate Example

(In this example, when FY 2012 data becomes available, FY 2012, 2011, and 2010 cost report data would be used to recalculate the Growth Rate).

Note that if the Average Annual Growth Rate is negative over the three-year period, it is applied as such.

Step 2a (Year 1): Determine Projected Total Discharges

North Carolina will utilize the Base Year 12-month period hospital cost report data from MCRIF32 and the Annual Average Growth Rate from Step 1 to project Total Discharges for Year 2, Year 3, and Year 4. Projected Discharge figures will be rounded to the nearest whole number.

Current Year – The Data Source is worksheet S-3 Part 1, Line 12, Col. 15
Example: 8,179 Base Year Total Discharges

Year 2 Projected = [Number of discharges in Current Year * (1 + Average Annual Growth Rate)]
Example: [8,179 * (1 + (-0.06197)] = 8,128

Year 3 Projected = [Year 2 Projected * (1 + Average Annual Growth Rate)]
Example: [8,128 *(1 + (-0.06197)] = 8,078

Year 4 Projected = Year 3 Projected * (1+ Average Annual Growth Rate)
Example: [8,078 * (1 + (-0.06197)] = 8,028

Step 2b (Year 1): Calculating the Total Discharge Related Amount

The Overall EHR Amount includes a discharge related amount of an additional $200 per projected discharges between 1,150 and 23,000 discharges. No amount is calculated for discharges prior to the 1,150th discharge or for discharges after the 23,000th discharge.

The following formula will be utilized to calculate the discharge related amount for years 1 through 4.

Discharge related amount for Year 1 = (Current Year Projected Discharges under 23,000 – 1149) * $200
Discharge related amount for Year 2 = (Year 2 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 3 = (Year 3 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 4 = (Year 4 projected discharges under 23,000 – 1149) * $200

	Per Discharge Amount	Projected Total Discharges	Disallowed Discharges	Allowable Discharges	Amount
Year 1	$200	8,179	1,149	7,030	$1,406,000
Year 2	$200	8,128	1,149	6,979	$1,395,800
Year 3	$200	8,078	1,149	6,929	$1,385,800
Year 4	$200	8,028	1,149	6,879	$1,375,800
Total Discharge Related Amount					**$5,563,400**

Table 27 - Alternate Hospital Calculation Total Discharge Amount Example

Step 3 (Year 1): Calculate the Initial EHR Amount for Four Years

The Initial Amount is = a base amount of $2,000,000 + the total discharge related amount for each year.

Calculate Initial Amount	Year 1	Year 2	Year 3	Year 4
Base Amount	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Discharge Related Amount	$1,406,000	$1,395,800	$1,385,800	$1,375,800
Aggregate EHR Amount	**$3,406,000**	**$3,395,800**	**$3,385,800**	**$3,375,800**

Table 28 - Alternate Hospital Calculation Aggregate EHR Amount Example

Step 4 (Year 1): Apply the Medicaid Transition Factor for Each of the Four Years

Transition Factor Year 1 = 1.00
Transition Factor Year 2 = 0.75
Transition Factor Year 3 = 0.50
Transition Factor Year 4 = 0.25

	Year 1	Year 2	Year 3	Year 4
Aggregate EHR	$3,406,000	$3,395,800	$3,385,800	$3,375,800
Transition Factor	1.00	0.75	0.50	0.25
Applied Amount	**$3,406,000**	**$2,546,850**	**$1,692,900**	**$843,950**

Table 29 - Alternate Hospital Calculation Medicaid Transition Factor Example

Step 5 (Year 1): Calculate the Overall EHR Amount for Four Years

Add the Aggregate EHR Amount for all four years after application of the Transition Factor.

Payment Year	Payment Amount
Year 1	$ 3,406,400
Year 2	$ 2,546,850

Payment Year	Payment Amount
Year 3	$ 1,692,900
Year 4	$ 843,950
Total	**$ 8,489,700**

Table 30 - Alternate Hospital Calculation Overall EHR Amount Example

Step 6 (Year 1): Calculate the Medicaid Share of the Overall EHR Amount for Four Years

The Medicaid share shall be calculated using the Base Year 12-month period from the hospital cost report data on MCRIF32.

The Medicaid inpatient bed-days data extracted from the specified data fields of the Medicaid Cost Report should not be all inclusive of the data in those individual cost report fields. To preserve the integrity of the data used in calculating the Medicaid Share, only the inpatient bed-days data specific to the defined criteria of the numerator and the denominator should be extracted from the appropriate Medicaid Cost Report data fields.

The Medicaid share will be calculated as the numerator (M + N) divided by the denominator (P times the product of Q minus R divided by Q)

− Numerator = **M + N**

M = Number of inpatient-bed days paid by Medicaid for individuals enrolled in Medicaid; Source is worksheet S-3, Part I, Col 5, Line 1 plus Lines 6 through 10 of the Base Year cost report.

The source of Medicaid inpatient bed days will change in the new CMS 2552-10 cost report effective for 12-month cost report periods beginning on or after May 1, 2010.

In the CMS 2552-10, the source for Medicaid inpatient bed-days will be Worksheet S- 3, Part I, Col 7, Line 1 plus Lines 8 through 12.

N = Number of paid inpatient-bed-days of Medicaid individuals enrolled in a managed care organization, a pre-paid inpatient health plan, or a pre-paid ambulatory health plan; and out-of-state days paid by Medicaid. The source is worksheet S-3, Part I, Col 5, Line 2 of the Base Year cost report.

The Source of Medicaid inpatient bed-days enrolled in a HMO will change in the new CMS 2552-10 cost report effective for 12-month cost report periods beginning on or after May 1, 2010. In the CMS 2552-10, the source for Medicaid HMO inpatient bed days will be Worksheet S-3, Part I, Col 7, Line 2.

− Denominator = **P *((Q – R) / Q)**

P = Total amount of EHs' inpatient bed days over selected period;

Source is worksheet S-3, Part I, Col 6, Line 1, plus Line 2 plus Lines 6 through 10 of the Base Year cost report.

The Source for total inpatient bed-days will change in the new CMS 2552-10 cost report effective for 12-month cost report periods beginning on or after May 1, 2010. In the CMS 2552-10, the source for total inpatient bed days will be Worksheet S-3, Part I, Col 8, Line 1 plus Line 2 plus Lines 8 through 12.

Q = Total amount of EH's charges; Source is worksheet C, Part I, Line 101, Col. 8 of the Base Year cost report.

The Source for total amount of eligible charges will change in the new CMS 2552-10 cost report effective for 12-month cost report periods beginning on or after May 1,

2010. In the CMS 2552-10, the source for total eligible charges will be Worksheet C, Part I, Line 200, Col 8.

R = Charges attributable to charity care; Source is EH Attestation.

The Source of charges attributable to charity care will change in the new CMS 2552-10 cost report effective for 12-month cost report periods beginning on or after May 1, 2010. In the CMS 2552-10, the source will be Worksheet S-10, Column 3, Line 20.

M	Total Medicaid Inpatient Bed Days	3,943
N	Total Medicaid Managed Care Inpatient Bed Days	217
Numerator (M+N)	Total Medicaid and Managed Care Inpatient Days	4,160
Q	Total Hospital Charges	421,467,997
R	Total Charity Care / Uncompensated Care Charges	10,000,000
Q minus R	Total Hospital Charges Less Charity Care Charges	411,467,997
Q-R/Q	Non - Charity Care Percentage	0.976273406
P	Total Hospital Inpatient Bed Days	34,433
Denominator	Total Non-Charity Hospital Inpatient Bed Days	33,616
Medicaid Share		**0.123750513**

Table 31 - Alternate Hospital Calculation Medicaid Share Example

Step 7 (Year 1): Calculate the Medicaid Aggregate EHR Incentive Payment Amount

Aggregate EHR payment = Medicaid Share (Step 6) * Overall EHR Amount (Step 5)

Overall EHR Amount for 4 Years	$8,489,700
Medicaid Share	0.123750513
Medicaid Aggregate EHR Incentive Payment Amount	**$1,050,605**

Table 32 - Alternate Hospital Calculation Aggregate Share Example

Step 8 (Year 1): Calculate the Annual EHR Incentive Payment Amount

Payments will be made over a three-year period for the Overall EHR amount with Year 1 payment at 50 percent, Year 2 payment at 40 percent, and Year 3 payment at 10 percent.

Payment Year	Percentage	Payment
Year 1 Payment	50%	$525,302
Year 2 Payment	40%	$420,242

Payment Year	Percentage	Payment
Year 3 Payment	10%	$105,061
Year 4 Payment	0%	$ 0
Total		**$1,050,605**

Table 33 - Alternate Hospital Calculation Annual EHR Incentive Payment Example

NOTE: Year 2 and Year 3 payments will be recalculated when the third 12-month cost report is filed and will be adjusted accordingly to ensure that the total EHR Incentive Payments to be made are calculated using actual cost report data as filed for three consecutive 12-month cost reporting periods.

REVISED CALCULATION – YEAR 2

Step 1 (Year 2): Recalculate the Estimated Average Annual Growth Rate

The estimated average annual growth will be recalculated by averaging the annual percentage change in total patient discharges from the most recent three years of available data from the 12-month hospital cost reports (MCRIF32) prior to the year subsequent to the First Payment Year. The three full 12-month cost report periods necessary to perform this calculation must be the three full 12-month cost report periods subsequent to the new enrollment, CHOW, merger or divestiture as described above. The 12-month cost report period in which the new enrollment, CHOW, merger, or divestiture occurred may not be used. This information will be obtained from Total Patient discharge amounts in worksheet S-3, Part I, Line 12, Col 15 for the applicable FYs at the time of the calculation.

Example:

Total Patient discharges in worksheet S-3, Part I, Line 12, Col 15 for FY 2011, 2010 are shown in the chart below.

DGY3, DGY2, DGY1 will represent Discharge Growth 3 years ago, 2 years ago, and prior year respectively.
DGY3 = N/A
DGY2 = (Total Discharges FY10-Total Discharges FY09)/Total Discharges FY09
DGY1 = (Total Discharges FY11-Total Discharges FY10)/Total Discharges FY10
Average Annual Growth Rate = (DGY2+DGY1) / 2

Total Discharges	FYB	FYE	W/S S-3, Part I, Line 12, Col 15	Prior Year	Current Year	Increase / (Decrease)	Growth Rate
3rd Prior Year	N/A	N/A	N/A				
2nd Prior Year	10/1/2009	9/30/2010	8,230	N/A	N/A	N/A	N/A
1st Prior Year	10/1/2010	9/30/2011	8,179	8,230	8,179	(51)	-0.6197%
Base Year	10/1/2011	9/30/2012	8,365	8,179	8,365	(186)	-2.2741%
				Total Increase / (Decrease)			-1.6544%
				Average Annual Growth Rate			**0.8272%**

Table 34 - Revised Alternate Hospital Calculation Growth Rate Example

For Year 2 and Year 3 calculations, Base Year Data remains the same and only the Growth Rate is adjusted.

Step 2a: Recalculate Projected Total Discharges

North Carolina will use the recalculated Average Annual Growth Rate from Step 1 (Year 2) and apply it to the Year 1 (Base Year) discharges to recalculate and project Total Discharges for Year 2, Year 3, and Year 4. Projected Discharge figures will be rounded to the nearest whole number.

Current Year – The Data Source is worksheet S-3 Part 1, Line 12, Col. 15
Example: 8,179 Base Year Total Discharges

Year 2 Projected = [Number of discharges in Current Year * (1 + Average Annual Growth Rate)]
Example: [8,179 * (1 + 0.008272)] = 8,247

Year 3 Projected = [Year 2 Projected * (1 + Average Annual Growth Rate)]
Example: [8,247 *(1 + 0.008272)] = 8,315

Year 4 Projected = Year 3 Projected * (1+ Average Annual Growth Rate)
Example: [8,315 * (1 + 0.008272)] = 8,384

Step 2b (Year 2): Re-Calculating the Total Discharge Related Amount

The Overall EHR Amount includes a discharge related amount of an additional $200 per projected discharges between 1,150 and 23,000 discharges. No amount is calculated for discharges prior to the 1,150th discharge or for discharges after the 23,000th discharge.

The following formula will be utilized to calculate the discharge related amount for years 1 through 4.

Discharge related amount for Year 1 = (Current Year Projected Discharges under 23,000 – 1149) * $200
Discharge related amount for Year 2 = (Year 2 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 3 = (Year 3 projected discharges under 23,000 – 1149) * $200
Discharge related amount for Year 4 = (Year 4 projected discharges under 23,000 – 1149) * $200

	Per Discharge Amount	Projected Total Discharges	Disallowed Discharges	Allowable Discharges	Amount
Year 1	$200	8,179	1,149	7,030	$1,406,000
Year 2	$200	8,247	1,149	7,098	$1,419,600
Year 3	$200	8,315	1,149	7,166	$1,433,200
Year 4	$200	8,384	1,149	7,235	$1,447,000
Total Discharge Related Amount					**$5,705,800**

Table 35 - Revised Alternate Hospital Calculation Total Discharge Amount Example

Step 3 (Year 2): Recalculate the Initial EHR Amount for 4 Years

The Initial Amount is = a base amount of $2,000,000 + the total discharge related amount for each year.

Calculate Initial Amount	Year 1	Year 2	Year 3	Year 4
Base Amount	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Calculate Initial Amount	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Discharge Related Amount	$1,406,000	$1,419,600	$1,433,200	$1,447,000
Aggregate EHR Amount	**$3,406,000**	**$3,419,600**	**$3,433,200**	**$3,447,000**

Table 36 - Revised Alternate Hospital Calculation Aggregate EHR Amount Example

Step 4 (Year 2): Re-Apply the Medicaid Transition Factor for Each of the 4 Years

Transition Factor Year 1 = 1.00
Transition Factor Year 2 = 0.75
Transition Factor Year 3 = 0.50
Transition Factor Year 4 = 0.25

	Year 1	Year 2	Year 3	Year 4
Aggregate EHR	$3,406,000	$3,419,600	$3,433,200	$3,447,000
Transition Factor	1.00	0.75	0.50	0.25
Applied Amount	**$3,406,000**	**$2,564,700**	**$1,716,600**	**$861,750**

Table 37 - Revised Alternate Hospital Calculation Medicaid Transition Factor Example

Step 5 (Year 2): Recalculate the Overall EHR Amount for 4 Years

Add the Aggregate EHR Amount for all four years after application of the Transition Factor.

Payment Year	Payment Amount
Year 1	$ 3,406,400
Year 2	$ 2,564,700
Year 3	$ 1,716,600
Year 4	$ 861,750
Total	**$ 8,549,050**

Table 38 - Revised Alternate hospital Calculation Overall EHR Amount Example

Step 6 (Year 2): Medicaid Share of the Overall EHR Amount for Four Years

The Medicaid share calculation shall use the same base year cost report data as the Year 1 calculation; therefore, the Medicaid share remains unchanged from the Year 1 calculation.

Step 7 (Year 2): Recalculate the Medicaid Aggregate EHR Incentive Payment Amount

Aggregate EHR payment = Medicaid Share (Step 6 from Year 1) * Overall EHR Amount (Step 5, Year 2)

Overall EHR Amount for 4 Years	$8,549,050
Medicaid Share	0.123750513
Medicaid Aggregate EHR Incentive Payment Amount (to be paid over a 3-year period)	**$1,057,949**

Table 39 - Revised Alternate Hospital Calculation Aggregate Share Example

Step 8 (Year 2): Recalculate the Annual EHR Incentive Payment Amount

Payments will be made over a three-year period for the Overall EHR amount with Year 1 payment at 50 percent, Year 2 payment at 40 percent, and Year 3 payment at 10 percent.

Payment Year	Percentage	Payment
Year 1 Payment	50%	$528,974
Year 2 Payment	40%	$423,180
Year 3 Payment	10%	$105,795
Year 4 Payment	0%	$0
Total		**$1,057,949**

Table 40 - Revised Alternate Hospital Calculation Annual EHR Incentive Payment Example

Step 9 (Year 2): Calculation Revision in Year 2 based on Additional Full Year of Cost Report Data

	Year 1		
Prior Calculation for Medicaid EHR Payment	$525,302		
Revised Calculation for Medicaid EHR Payment	$528,974		
Difference to Apply to Year 2	**$3,672**		
	Calculation	**Revision**	**Payment**
Year 1 Payment	$525,302	$-	$525,302
Year 2 Payment	$423,180	$3,672	$426,852
Year 3 Payment	$105,795	$-	$105,795
Total Payment			**$1,057,949**

Table 41 - Revised Alternate Hospital Calculation Example

C.5.3.3 Adjustments to EHR Incentive Payments Received by Eligible Hospitals

North Carolina Medicaid shall recalculate and adjust EHR Incentive Payments received by EHs under the following circumstances:

- When recalculation and adjustment is required for Year 2 and Year 3 Payments in accordance with the Alternate Payment Calculation (*Section C.5.3.1: Standard Payment Calculation*); and,

- Upon discovery of any errors, omissions, or ineligible data submitted by the EH in the attestation that was utilized by North Carolina Medicaid to calculate the original EHR Incentive Payment amount received by the EH.

Adjustments to the original calculation of the EHR Incentive Payment amount received by the EH will be based upon the corrected cost report data relevant to the original payment calculation that covers the same full 12-month cost reporting periods pertinent to the original calculation.

Adjustment amounts determined to be an overpayment of the AIU incentive payment shall be recovered by North Carolina Medicaid from the EH. Adjustment amounts determined to be an underpayment of the original EHR Incentive Payment will be disbursed by North Carolina Medicaid to the EH.

All EHs are subject to audit and verification of meeting eligibility requirements. Hospitals who have received an EHR incentive payment that are subsequently found ineligible shall have all ineligible payments immediately recovered.

All EHs are subject to audit and verification of meeting MU criteria. The MU audits will be conducted by CMS. EHs who have received an EHR incentive payment that are subsequently found not to be have met MU criteria shall have all ineligible payments immediately recovered.

C.5.4 Payment Process

Providers are eligible to be paid after verifications for registration, patient volume, AIU attestation, MU attestation, other eligibility requirements, and final CMS clearance are complete. The payment process consists of multiple checks, communications, and coordination between systems and groups.

C.5.4.1 Payment Assignment

EPs have the option of designating an alternate payee (other than themselves) provided the payee is either an employer or another organization with which the EP has a business financial relationship. EPs will designate a payee NPI in the CMS R&A during CMS registration.

EPs may update their payee designation any time in the program year before payment occurs by updating the CMS R&A, withdrawing their NC-MIPS attestation (if already submitted), confirming the new payee NPI that has pre-populated in the NC-MIPS Portal after the B-6 transaction, and resubmitting their electronic and signed attestations.

At this time, North Carolina has made the policy choice not to designate an entity promoting the adoption of CEHRT for the assignment of five percent of any EP's individual EHR incentive payment. EPs are free to make any such payments on their own after the state has issued a payment to them or their assignee. The state reserves the right to designate such entities in a future version of the SMHP.

C.5.4.2 Payments under Managed Care

Legislation passed in 2011 required the NC DHHS to restructure the management responsibilities for the delivery of services to individuals with mental illness, intellectual and other developmental disabilities, and substance abuse disorders through the 1915 (b)/(c) Medicaid Waiver. The goal of the legislation was to establish a system that is capable of managing public resources available for mental health, intellectual and other developmental disabilities and substance abuse services, including federal block grant funds, federal funding for Medicaid and Health Choice, and all other public funding sources.

North Carolina has utilized a managed care delivery system called Piedmont Behavioral Health (PBH) since April 2005. The statewide expansion of the 1915 (b)/(c) Waiver builds on this PBH model. PBH's managed care model

includes a 1915(b) waiver program called Piedmont Cardinal Health Plan (PCHP). This capitated managed care arrangement is a Pre-paid Inpatient Health Plan, since it includes coverage for inpatient as well as outpatient mental health services. Additionally, a 1915(c) waiver program, Innovations Waiver, exists as a Home- and Community-Based Services capitated program for individuals with intellectual or developmental disabilities.

The MH/DD/SA services for Medicaid recipients and the uninsured in NC will be managed by 11 LMEs that will function as Managed Care Organizations (MCO) based upon the pilot model created by DHHS and PBH. Implementation was staged in tiers which began in October 2011 and the last set of LME–MCOs began operation in 2013. State law required the transition of the entire state to the 1915 (b)/(c) Medicaid Waiver by July 1, 2013.

The Final Rule did not extend eligibility to all the behavioral healthcare providers operating under the PBH model. Those possibly qualifying as EPs would include physicians with a psychiatric specialty and Certified Nurse Practitioners. Hospitals paid out of the capitated funds through a PHIP would receive normal fee for service amounts as payment for covered beneficiaries.

42 CFR Part 438.6 requires that "contracts with incentive arrangements may not provide for payment in excess of 105 percent of the approved capitation payments attributable to the enrollees or services covered by the incentive arrangement, since such total payments will not be considered to be actuarially sound." DMA does not have contracts with individual providers under its managed care arrangements. While individual physicians and nurse practitioners practicing with managed care entities may attest under the EHR Incentive Program and receive incentive payments, the managed care model does not include the payment of any capitated managed care fees to individual practitioners. The NC Medicaid EHR Incentive Program also does not include payments to managed care entities since they are not eligible providers. Therefore, no risk exists for DMA to be in conflict with the requirements of 42 CFR 438.6.

C.5.4.3 State Business Rules/Payment Environment

After Program staff have completed validation checks on EP and EH attestations, all determinations of qualification for a payment are reviewed again by the provider relations lead to ensure all conditions for payment have been met. If there are issues in verifying data and determining qualification and time allows prior to the close of the program year, the provider relations lead performs outreach to seek further information so a determination of "qualified" or "not qualified" can be reached. If no issues are found, the Program requests CMS approval for payment. Upon CMS approval, the list of EPs and EHs approved to receive payments is pulled from the NC-MIPS2 database, reviewed by the Program's budget specialist, then forwarded to NCTracks for processing of payment. EPs and EHs receive payment through Electronic Funds Transfer (EFT) 1-2 weeks later. Upon payment, a detailed payment report is returned and stored in NC-MIPS, and reports of paid EPs and EHs may be pulled from the NC-MIPS2 database.

The state takes many precautions to ensure that incentive payments are accurate and appropriate. The Attestation Validation Portal (AVP) is designed to provide a full audit trail of all information and decisions regarding eligibility. Checks on maximum payment amounts for EPs are built into the NC-MIPS AVP logic for payment calculation. Incentive payment calculations for EHs are included in this SMHP for CMS and public reference.

The state strives to make payments within 45 days of successful attestation in accordance with CMS policy. However, processing attestations and issuing payments takes significantly longer during high-volume periods such as the months leading up to the close of the program year. Also, if faced with cash flow limitations; it is possible, that these limitations could delay payments. The Program's budget specialist works with the Controller's office to define strategies that will reduce the risk of payment delays. In the case that an EP or EH needs to include Medicaid encounter volumes from other states, a delay in payment could occur; these requests will be handled on a case-by-case basis.

C.5.5 Request for Federal Reimbursement

The NCTracks payment logic uses unique cost center codes to ensure expenditures are drawn from appropriate funding sources. Incentive payments made to EPs and EHs are allocated to the same account within the accounting structure, which has a Financial Responsibility Center (FRC) code indicating 100 percent FFP. Likewise, invoices for contractual services are coded to, and paid from, specific cost centers created to reflect the appropriate funding source and 90/10 FFP. These unique codes assure that all fund requests from CMS are correct and documented.

Federal reporting through the CMS-64 includes all the EHR Incentive Program expenditure reporting, while the CMS-37 includes all projected EHR Incentive Program funding needs.

C.6 Appeals

There are three types of appealable actions for providers participating in the EHR Incentive Program:

- Denial of provider's eligibility to participate in the EHR Incentive Program;
- Denial or adjustment of incentive payments for EHs or EPs; and,
- Recoupment of part or all of incentive payments from EPs due to audits indicating non-compliance with AIU requirements or MU criteria.

Providers can appeal a denial of provider's eligibility to prove that the attestation submitted as of the close of the tail period did in fact demonstrate that they met all eligibility requirements and did adopt/implement/upgrade or meaningfully use CEHRT.

Recoupments due to audit are described in the Program's Audit Strategy, which is submitted separately from the SMHP.

EHR Incentive Program appeals adhere to the same process as other Medicaid appeal proceedings, following the requirements as outlined in the North Carolina Administrative Code (NCAC), Sections 10A NCAC 22F - Program Integrity (PI), 10A NCAC 22J - Title XIX Appeals Procedures and 10A NCAC 22N - Provider Enrollment.

The Appeals/Hearing process for the three types of appeal processes are presented in **Table 42**.

Appeal Processes	**Denial or Adjustment of Incentive Payments for EHs**	**Non-Compliance with AIU Requirements or Meaningful Use Criteria**	**Provider Eligibility Denial**
Reconsideration Review of DMA Action	A Medicaid Eligible Hospital (EH) may request a reconsideration review upon receipt of Final Notification of **Medicaid EHR incentive payment denial or adjustment** as a result of DMA's determination that the EH does not meet all applicable requirements in subparts A and D of Part 495 of Title 42 of the Code of	An Eligible Provider (EP) or EH may request a reconsideration review upon receipt of Final Notification of DMA's determination that they have **not satisfactorily demonstrated that they have met all of the required criteria to be deemed as having adopted, implemented, or upgraded certified EHR technology, as**	A provider may request a reconsideration review upon receipt of final notification of DMA's determination that an **EP or EH does not meet all provider enrollment eligibility criteria, consistent with 42 CFR 495.304 and 495.306, upon enrollment and re-enrollment to the**

Appeal Processes	Denial or Adjustment of Incentive Payments for EHs	Non-Compliance with AIU Requirements or Meaningful Use Criteria	Provider Eligibility Denial
	Federal Regulations. Final Notification means the letter sent after DMA's monitoring, verification, or auditing process is complete. The Final Notification identifies the reason(s) for a payment denial or adjustment.	**defined in 42 CFR 495.302 or have not satisfactorily demonstrated that they have met all of the required criteria necessary to be deemed a meaningful user of certified EHR technology, as defined in 42 CFR 495.4, during the EHR reporting period.** Final Notification means the letter sent after DMA's monitoring, verification, or auditing process is complete and which identifies the efforts to adopt, implement or upgrade or the applicable meaningful use objectives and associated measures that could not be validated by DMA or CMS. Hospitals deemed MU non-compliant by CMS will be deemed MU non-compliant by the North Carolina EHR Incentive Program.	**Medicaid EHR payment incentive program**. Final Notification means the letter sent after DMA's verification process is complete and which identifies the eligibility criteria that DMA could not verify.
Time Limit to Submit Request to Hearing Officer	The EH's request for a reconsideration review must be received by the DMA Hearing Officer within 30 calendar days of Final Notification. Requests received in excess of 30 days are considered as an improper filing and are denied. Request must be signed by the provider or the provider's attorney.	The request must be received by DHHS Hearing Officer within 15 calendar days of Final Notification. Requests received in excess of 15 days shall be considered as an improper filing and will be denied. Request must be signed by the provider or the provider's attorney.	The request must be received by DHHS Hearing Officer within 15 calendar days of Final Notification. Requests received in excess of 15 days shall be considered as an improper filing and will be denied. Request must be signed by the provider or the provider's attorney.

Appeal Processes	Denial or Adjustment of Incentive Payments for EHs	Non-Compliance with AIU Requirements or Meaningful Use Criteria	Provider Eligibility Denial
Scheduling Review Conference	Upon receipt of a timely request for a reconsideration review, and in the event that any informal negotiations are not successful, DMA arranges a time and date with the EH for the reconsideration review.	Upon receipt of a timely request for a reconsideration review, the EP or EH has 14 days to submit their written argument proving the attestation submitted prior to the close of the program year demonstrated that they adopted, implemented or upgraded certified EHR. Upon receipt of a timely request for a reconsideration review, the EP has 14 days to submit their written argument proving the attestation submitted prior to the close of the program year demonstrated that they met required meaningful use objectives.	Upon receipt of a timely request for a reconsideration review, the EP or EH has 14 days to submit their written argument proving the attestation submitted prior to the close of the program year demonstrated that they met all eligibility requirements and why the Program's findings and denial of enrollment in the Medicaid EHR Incentive Program were not justified.
Notice of Due Date for Written Argument; Supporting Documentation; Extensions	The DMA hearing officer notifies the EH through a letter that the EH has 14 calendar days to submit a written argument refuting the findings of DMA and that failure to submit requested documentation could be cause for dismissal of the request. All requests for extensions must be received in writing prior to the due date.	The DHHS hearing officer notifies the EH or EP through a letter that the EH or EP has 14 calendar days to submit the written argument refuting the Program's decision and that failure to submit requested documentation could be cause for dismissal of the request. All requests for extensions must be received in writing prior to the due date.	The DHHS hearing officer notifies the EH or EP through a letter that the EH or EP has 14 calendar days to submit the written argument refuting the Program's decision and that failure to submit requested documentation could be cause for dismissal of the request. All requests for extensions must be received in writing prior to the due date.

Appeal Processes	Denial or Adjustment of Incentive Payments for EHs	Non-Compliance with AIU Requirements or Meaningful Use Criteria	Provider Eligibility Denial
Reconsideration Review and Administrative Decision Letter Notice of Right to Request Contested Case Hearing pursuant to N.C.G.S. 150B-22.	After the Reconsideration Review, a Decision is communicated to the provider in a Decision Letter within 30 days of the date of the Reconsideration Review. The Letter outlines each of the EH's or EP's appeal issues and the hearing officer's determination of each issue.		
Filing a Contested Case Hearing	If the EH or EP disagrees with the decision, the provider has the option of appealing to the Office of Administrative Hearings. Filings must be made within 60 days of the date the decision letter was placed in the mail to the last address provided by the EH or EP to the Medicaid agency in accordance with G.S. 150B-23.		
Notice of Contested Case and Assignment	Once the petition has been filed, a Notice of Contested Case and Assignment is sent to all parties by the Office of Administrative Hearings. This notice shows the name of the Administrative Law Judge (ALJ) who has been assigned to the case and requires that DMA submit any documentation which caused the filing of the contested case.		
Notice of Hearing	Not less than 15 days prior to the hearing, the EP or EH receives a Notice of Hearing. This Notice is sent by certified mail to all parties and establishes the time, date, and location of the hearing.		
The Hearing	Each party has the right to testify on his or her own behalf. Each party may also offer documents in evidence and have witnesses testify, question opposing party's witnesses and explain or rebut evidence.		
Decision of ALJ	The ALJ's decision is made in writing and contains the findings of fact and conclusions of law. Under current law, the Office of Administrative Hearings prepares the official records and submits a copy of that record to the agency responsible for making the final agency decision. DHHS has submitted a request for a waiver of the single state agency requirement that will allow OAH to make final agency decisions on behalf of the Medicaid agency. If that waiver is approved, both parties to the hearing (DMA and the EH or EP) would have the opportunity to request judicial review of any ALJ decision with which it disagreed.		

Appeal Processes	Denial or Adjustment of Incentive Payments for EHs	Non-Compliance with AIU Requirements or Meaningful Use Criteria	Provider Eligibility Denial
Final Agency Decision	Under current law, DMA makes the Final Agency Decision, but must adopt the ALJ's decision unless it is clearly contrary to the preponderance of the evidence. Before DMA issues a Final Decision, both Parties are given an opportunity to file exceptions and written arguments with DMA.		
Petition for Judicial Review	A party may appeal a Final Decision within 30 days after being served with a written copy of the Final Agency Decision by filing a Petition for judicial review in the Superior Court of Wake County or in the Superior Court of the county where the EP or EH resides.		

Table 42 - Appeals/Hearing Process

D. The State's HIT Roadmap

D.1 2011-2021

The NC Medicaid EHR Incentive Program, one of the major HIT initiatives in NC, hit the ground running in 2011 and has enjoyed continued success. The Program enrolled 6,140 participants in program years 2011 through 2016. These years were formative in the adoption of HIT and expansion of HIE connectivity and interoperability in North Carolina. Highlights from previous versions of the SMHP and future plans are listed below.

HIT Milestones and Highlights

2011

There were three main objectives which were carried out in 2011. Each played an important role in influencing EHR adoption. These objectives were:

- Implemented the NC Medicaid EHR Incentive Program in the first quarter of calendar year 2011.
- Partnered with the NC AHEC as NC's REC to encourage early adoption: REC staff served, and NC AHEC continues to serve, an incredibly important role in their hands-on assistance to the provider community across the state. NC Medicaid EHR Incentive Program staff participated in meetings and weekly office hours call with REC staff to address issues and challenges associated with EHR adoption and attestation for incentive payments.
- Multi-channel communication strategy: The NC Medicaid EHR Incentive Program developed and executed a preliminary Communication Plan toward the end of the year, including website improvements, regular articles in Medicaid provider bulletins and partner publications, outreach activities to partners and providers, and e-mail support to ensure better awareness of the program throughout NC and efficient handling of providers' questions and concerns.

2012

- A significant ramp up in provider awareness, participation, and incentive payments disbursed for the NC Medicaid EHR Incentive Program.
- Several steps laying the groundwork for HIE occurred.
    - A Master Services Agreement (MSA) between NC DHHS and NC HIE, establishing NC DHHS as a QO of the NC HIE, was executed.
    - The first Scope of Work (SOW) under this MSA included Medicaid's fair share of the development of NC HIE Core Services, establishment of NC DHHS and NC HIE reporting requirements, and detailed DHHS' utilization of the NC HIE's virtual QO services.
    - A resolution stating NC DHHS' intentions to champion HIE in its business processes was published.
    - The Program drafted NC Administrative Code with consensus of its stakeholder groups around exchange and CQM reporting requirements for providers participating in the NC Medicaid EHR Incentive Program.

2013

- Participation in the NC Medicaid EHR Incentive Program grew to 3,721 unique providers.
- The NC AHEC had enrolled over 5,144 primary care providers by 2013 and provided onsite support to primary care and specialty practices including assessing the practice; assisting in the selection of the most appropriate EHR system; guidance on system implementation; guidance on security and risk assessments; and guidance on system optimization through meeting MU.

- NC ORH initiated a pilot program dedicated to helping FQHCs and RHCs meet the initial stages of Meaningful Use.

2014

- The NC Medicaid EHR Incentive Program continued to adapt NC-MIPS, program website, attestation guides, and tailored outreach to be in compliance with Stage 2 MU and the flex rule.
- NC ORH hired a dedicated full-time employee to provide technical assistance for telemedicine and telepsychiatry programs being developed across the state.
- NC OHIT hired a new director.
- The first NC hospitals went live with NC HIE's HISP/Direct Secure Messaging service, integrated directly into their Epic and Meditech EHR systems.

2015

- Participation in the NC Medicaid EHR Incentive Program grew to 5,064 unique providers.
- ORH began to align, to the extent possible, performance measures for quality of care required of its grantees providing primary care services with Uniform Data System (UDS) reporting standards.
- The North Carolina Health Information Exchange Authority (NC HIEA) was created to oversee and administer North Carolina's HIE.

2016

- The NC Medicaid EHR Incentive Program began accepting attestations for Modified Stage 2 MU.
- HIE was transferred from the Community Care of North Carolina (CCNC) / North Carolina Community Care Networks (N3CN) structure to the new statewide North Carolina Health Information Exchange Authority (NC HIEA).
- NC Broadband Infrastructure Information Office released the NC State Broadband Plan that included seven recommendations specific to broadband and telehealth.

2017

- The NC Medicaid EHR Incentive Program began accepting attestations for Stage 3 MU.
- DMA established a new contract with NC AHEC to continue assisting NC providers with HIT initiatives including support of the NC Medicaid EHR Incentive Program and MIPS.
- The NC HIEA received CMS funding to support cost-effective Medicaid provider onboarding to the NC HealthConnex.

2018-2021

NC will continue to expand use of health information technology to improve outcomes and lower costs.

The NC HIEA will remain focused on onboarding providers serving the state-insured population during 2018-2019, while simultaneously optimizing existing HIE features and completing the build of in-progress value-added features. The five-year strategy is still in progress, though the NC HIEA expects that 2019-2021 will include continued onboarding efforts, optimization of analytic capabilities for NC DHHS/DMA (and possibly health care providers and other payers), and HIE access for payers and patients.

The NC Medicaid EHR Incentive Program will work to encourage program participants to meet Stage 3 MU and attest in the final years of the program. One of the Program's goals will be to increase the percentage of participating providers who return to attest for MU. For this goal, the Program's outreach efforts will include targeted messages to participating 2,875 professionals who have completed only AIU and expanded guidance explaining participating requirements for CEHRT and Stage 3 MU. The Program will continue to staff a dedicated

help desk to assist participants with MU and the attestation process and also plans to continue working with the NC AHEC by renewing the contract through DMA for technical assistance for providers through the life of the Program.

D.2 EHR Adoption

It is difficult to accurately predict the rate of CEHRT adoption, due to the many factors that contribute to a provider's adoption decision and timeline. There is no proven, widely-accepted model for projecting this provider behavior on the scale and precedence of the current endeavor. Below are some of NC's assumptions regarding adoption:

- Adoption among providers in rural areas will lag behind those in urban and suburban areas;
- For those who have already implemented an EHR, upgrades will follow in the first year or two;
- Adoption among providers affiliated with a hospital will generally precede adoption by providers who are independent;
- Providers affiliated with a hospital will lag behind adoption by that hospital; and,
- HIE will multiply the clinical practice benefits of EHRs; thus, EHR adoption will increase as HIE connectivity expands.

To participate in the NC Medicaid EHR Incentive Program, providers are required to have an ONC-certified EHR technology. Adoption of CEHRT in NC as measured by participation in the NC Medicaid EHR Incentive Program increased dramatically in the first six years of the Program.

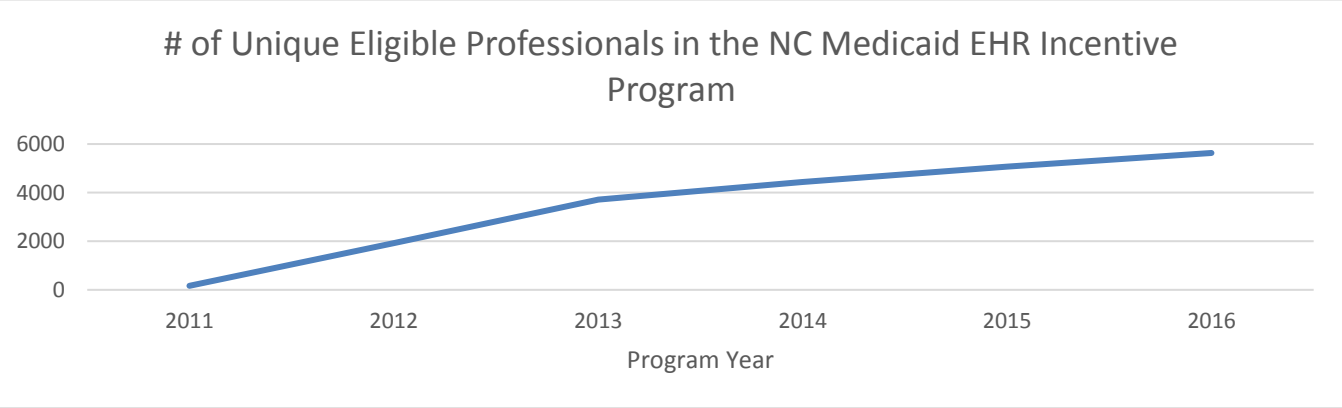


Figure 18 - NC CEHRT Adoption

As of June 2017, 6,140 providers had successfully attested for the Program. Of those 3,265 successfully attested for MU at least once, meaning they had a CEHRT and could demonstrate meaningfully using it.

D.3 Annual Benchmarks for Audit and Oversight

There are three types of benchmarks and tracking activities that monitor the successes and areas of improvement for DMA's HIT endeavors. These include:

1. EHR Incentive Program audit activities, which can be found in the NC Medicaid EHR Program Audit Strategy, and will be further defined and refined in future iterations of the SMHP.
2. Progress in adoption of CEHRT and exchange in NC. NC DHHS and DMA are in the process of exploring the best options for collecting the following data to measure progress in these areas:
    a. EHR adoption rates among North Carolina providers;
    b. Rates of attrition beyond first-year participation in the NC Medicaid EHR Incentive Program;
    c. Number of authorized users and participants connected to the NC HIEA and number of transactions; and,
    d. Number of Direct mailboxes acquired through the NC HIEA and number of messages exchanged between providers.
3. Medicaid EHR Incentive Program performance information, including provider participation and attrition rates, attestation processing rate from attestation to payment, and other benchmarks will be considered.

DMA uses data to target outreach and audits and improve effectiveness. Examples of this include the NC Medicaid EHR Incentive Program's tracking metrics around attestation processing time and payments disbursed, analyzing participation trends, and setting goals for improvements based on findings.

Appendix 1 - Acronyms and Abbreviations

Acronyms and Abbreviations	
ACA	Accountable Care Act
ADT	Admission, Discharge and Transfer
AHEC	Area Health Education Centers
AHRQ	Agency for Healthcare Research and Quality
AIU	Adopt, Implement, Upgrade
ARRA	American Recovery and Reinvestment Act
AVP	Attestation Validation Portal
BCBSNC	Blue Cross Blue Shield of North Carolina
BTOP	Broadband Technology Opportunities Program
CAH	Critical Access Hospital
CAI	Community Anchor Institution
CBOC	Community Based Outpatient Clinic
CCD	Continuity of Care Document
CCHA	Coastal Carolinas Health Alliance
CCHIE	Coastal Connect Health Information Exchange
CCME	Carolinas Center for Medical Excellence
CCN	CMS Certified Number
CCNC	Community Care of North Carolina
CCNC-UP	CCNC for Uninsured Parents
CCofSP	Community Care of the Southern Piedmont
CCR	Central Cancer Registry
CDC	Centers for Disease Control
CDSA	Child Development Service Agency

CEHR	Children's Electronic Health Record
CHA	Cabarrus Health Alliance
CEHRT	Certified Electronic Health Record Technology
CHC	Community Health Center
CHIP	Children's Health Insurance Program
CHIPRA	Children's Health Insurance Program Reauthorization Act
CHOW	Change of Ownership
CIH	Cherokee Indian Hospital
CIP	Capital Improvement Program
CIS	Credentialing Information System
CMIS	Case Management Information System
CMS	Centers for Medicare & Medicaid Services
CMS R&A	CMS Registration and Attestation System
CPOE	Computerized Physician Order Entry
CQM	Clinical Quality Measure
CRH	Central Regional Hospital
CSC	Computer Sciences Corporation
DCHI	Duke University Center for Health Informatics
DDR	Daily Disease Reporting
Department	North Carolina Department of Health and Human Services
DHHS	North Carolina Department of Health and Human Services
DMA	Division of Medical Assistance
DMH/DD/SAS	Division of Mental Health/Developmental Disabilities/Substance Abuse Services
DPH	Department of Public Health

DRIVE	Data Retrieval and Information Validation Engine
DSOHF	Division of State Operated Healthcare Facilities
ED	Emergency Department
EFT	Electronic Funds Transfer
EH	Eligible Hospital
EHR	Electronic Health Record
EMSPIC	EMS Performance Improvement Center
EMR	Electronic Medical Record
EMS	Emergency Medical Services
e-NC	e-North Carolina Authority
EP	Eligible Professional
EPSDT	Early and Periodic Screening, Diagnostic and Treatment
ESB	Enterprise Service Bus
EVC	NC Medicaid's Enrollment, Verification, and Credentialing System/Center
FFP	Federal Financial Participation
FFS	Fee-For-Service
FIP	Facilities Investment Programs
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
FRC	Financial Responsibility Center
FTE	Full-time Employee
GLRBI	Golden LEAF Rural Broadband Initiative
GUI	Graphical User Interface
HHS	Health and Human Services

HIE	Health Information Exchange
HIO	Health Information Organization
HIPAA	Health Insurance Portability and Accountability Act
HIS	Health Information System
HIT	Health Information Technology
HIT Plan	NC Medicaid Health Information Technology Plan
HITECH	Health Information Technology for Economic and Clinical Health Act
HIT Task Force	North Carolina HIT Strategic Planning Task Force
HO	Hearing Office
HP	Hewlett Packard
HPES	Hewlett Packard Enterprise System
HRSA	Health Resources Services Administration
HSIS	Health Services Information System
HWTFC	Health and Wellness Trust Fund
HWTFC	Health and Wellness Trust Fund Commission
I-APD	Implementation Advanced Planning Document
IC	Informatics Center
IDN	Integrated Delivery Networks
IDS	Increased Demand for Community Health Center Services
IHS	Indian Health Services
IPH	Institute for Public Health
IPIP	Improving Performance in Practice
IT	Information Technology
ITS	Information Technology Services

LHD	Local Health Department
LME	Local Management Entities
LMFT	Licensed Marriage and Family Therapist
MCNC	Microelectronics Center of North Carolina
MCO	Managed Care Organization
MFCU	Medicaid Fraud Control Unit
MITA	Medicaid Information Technology Architecture
MMIS	Medicaid Management Information System
MPN	Medicaid Provider Number
MSA	Master Service Agreement
MU	Meaningful Use
NC	North Carolina
N3CN	North Carolina Community Care Networks
NC EDSS	NC Electronic Disease Surveillance System
NC HIE	North Carolina Health Information Exchange
NC OEMS	The North Carolina Office of Emergency Services
NCAC	North Carolina Administrative Code
NCAS	North Carolina Accounting System
NCB-Prepared	North Carolina Bio-Preparedness Collaborative
NCCHCA	North Carolina Community Health Center Association
NC DETECT	NC Disease Event Tracking and Epidemiologic Collection Tool
NCHA	North Carolina Hospital Association
NCHESS	North Carolina Hospital Emergency Surveillance System
NCHEx	North Carolina Healthcare Exchange

NCHICA	North Carolina Healthcare Information and Communications Alliance
NCID	North Carolina Identifier
NCIR	North Carolina Immunization Registry
NC-MIPS	NC Medicaid Incentive Payment System
NCMS	North Carolina Medical Society
NCMSF	North Carolina Medical Society Foundation
NC PATH	North Carolina Program to Advance Technology for Health
NCREN	North Carolina Research and Education Network
NCRHC	North Carolina Rural Health Center
NCTN	North Carolina TeleHealth Network
NCTN-H	North Carolina TeleHealth Network - Hospitals
NC TRACKS	NC Transparent Reporting, Accounting, Collaboration, and Knowledge Management System
NHIN	Nationwide Health Information Network
NPI	National Provider Identifier
NTIA	National Telecommunications and Information Administration
NwHIN	Nationwide Health Information Network
OHIT	Office of Health Information Technology
OMMISS	Office of Medicaid Management Information System Services
ORH	Office of Rural Health (formerly Office of Rural Health and Community Care)
ONC	Office of the National Coordinator
OSC	Office of the State Chief Information Officer
PA	Physician Assistant
PAC	Picture Archiving and Communication

PAM	Patient Activation Measure
PBH	Piedmont Behavioral Health
PCG	Public Consulting Group
PCHP	Piedmont Cardinal Health Plan
PECOS	Provider Enrollment, Chain, and Ownership System
PI	Program Integrity
PMO	Project Management Office
PreMis	Pre-Hospital Medical Information System
Program	North Carolina Medicaid EHR Incentive Program
PSO	Patient Safety Organization
QI	Quality Improvement
QIC	Quality Improvement Consultants
QIS	Quality Improvement Specialists
QMAF	Quality Measures and Feedback
QO	Qualified Organization
RAID	Redundant Array of Independent Disks
RCHD	Rowan County Health Department
REC	Regional Extension Center
RFP	Request for Proposal
RHC	Rural Health Center
RPMS	Resource Patient Management System
SCHIEx	South Carolina Health Information Exchange
SCHIP	State Children's Health Insurance Program
SCIO	State Chief Information Officer

SERCH	Southeast Regional HIT-HIE Collaboration
SFTP	Secure File Transfer Process
SHAP	State Health Access Program
SL	Session Law
SMARTT	State Medical Asset Resource Tracking Tool
SMHP	State Medicaid HIT Plan
SNG	Strategic Networks Group
SOA	Service-Oriented Architecture
SOW	Statement of Work
SPBC	Southern Piedmont Beacon Community
SS-A	State Self-Assessment
STEMI	EMS response time, acute trauma care, acute cardiac care
TIN	Taxpayer Identification Number
UBT	University Based Training
UNC-CH	University of North Carolina at Chapel Hill
UPI	Unique Patient Identifier
VA	Veterans Affairs
VistA	Veterans Administration Electronic Health Record
vSPR	Virtual Single Patient Record
WIC	Women, Infant, and Children
WNCHN	Western North Carolina Health Network

Appendix 2 - NC-MIPS Portal 2.0 Screenshots

Figure 19 - Welcome page

Figure 20 - First Time Account Setup page

Figure 21 - NCID Username Update Tool page

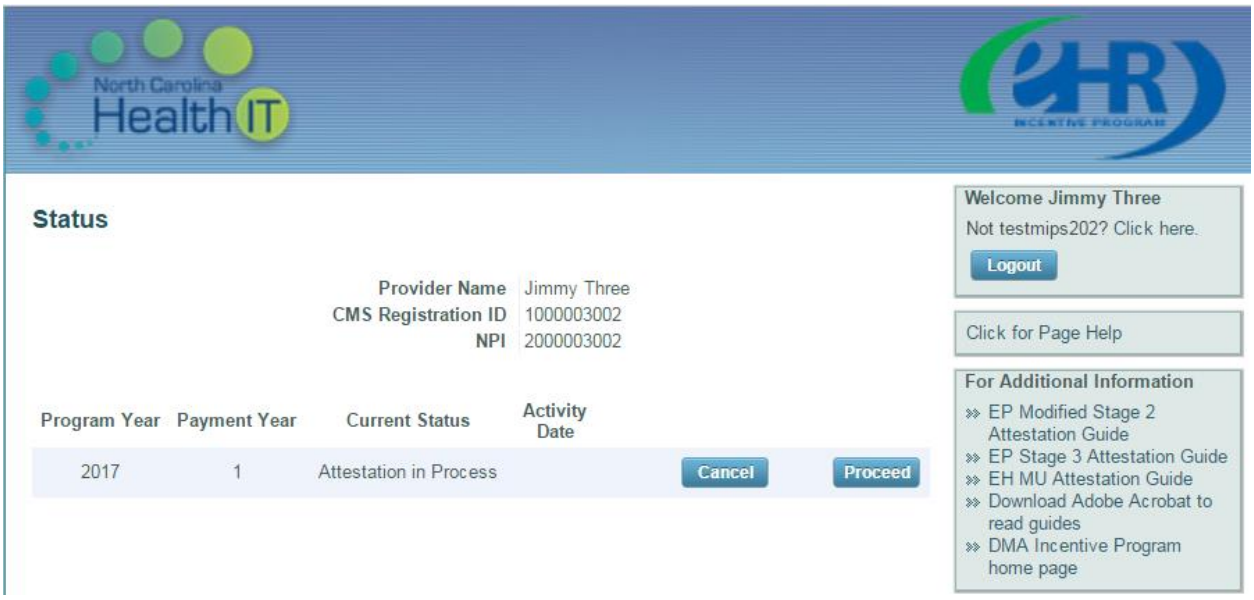


Figure 22 - Status page

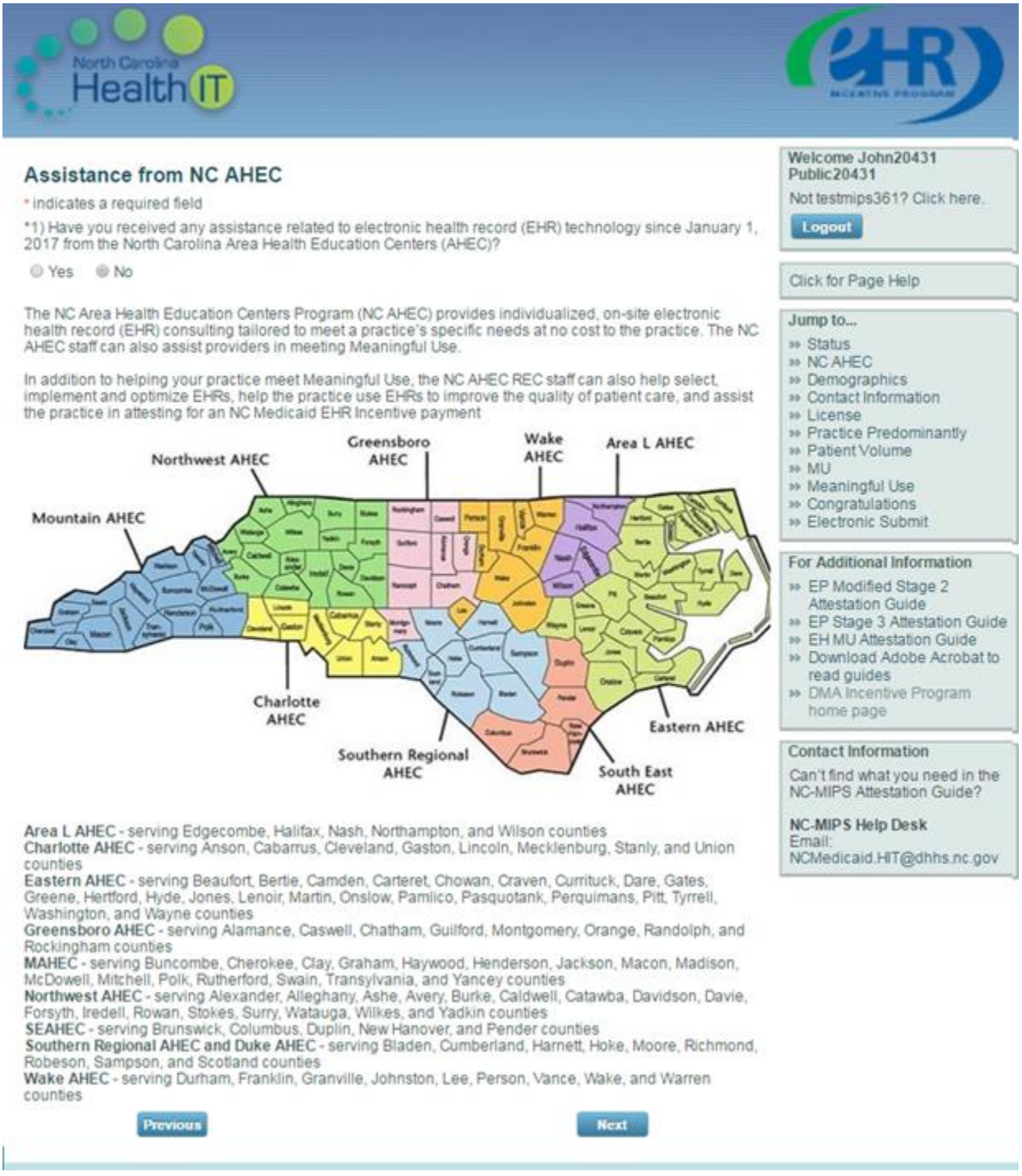


Figure 23 - Assistance from NC AHEC page

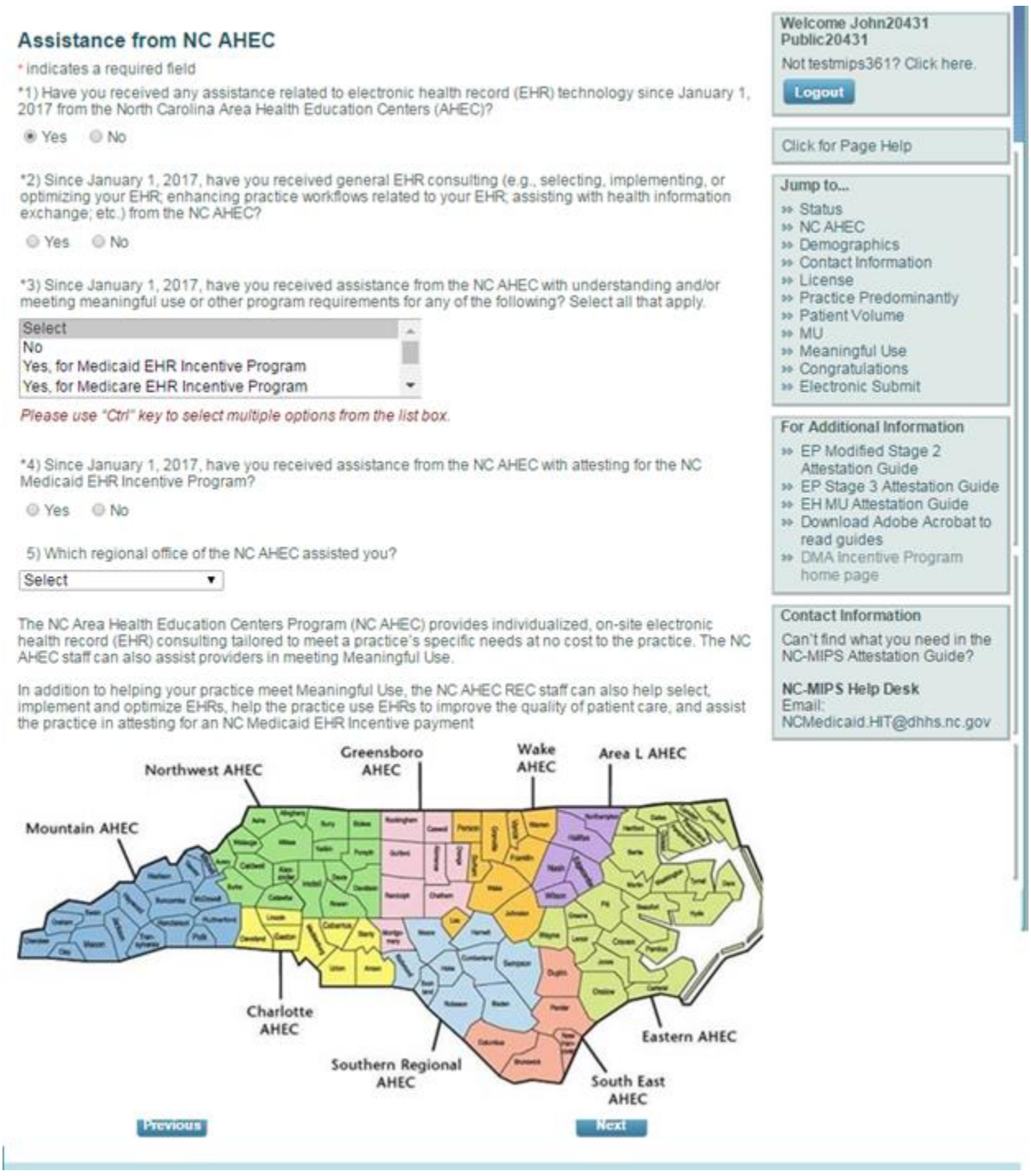


Figure 24 - Assistance from NC AHEC page, if provider received AHEC assistance

Figure 25 - Demographics page

Figure 26 - Contact Information page

Figure 27 - License page

Figure 28 - Practicing Predominantly/Hospital-Based page

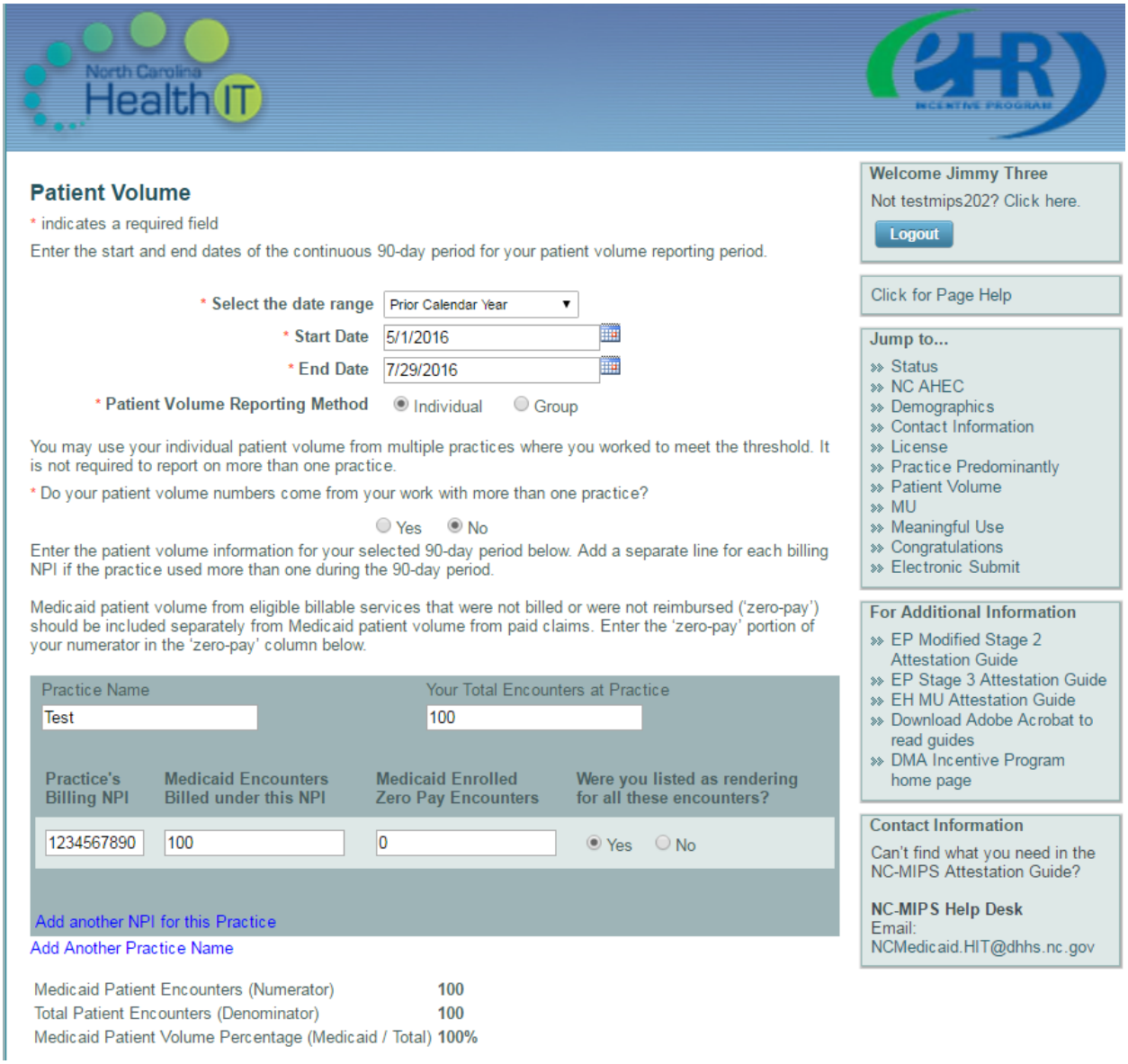


Figure 29 - Individual Patient Volume page

1) When using individual methodology, the numerator and denominator should include only encounters where the EP was the attending or supervising provider. Did you enter only those encounters attributable to the individual EP in the numerator and denominator, NOT the patient volume numbers for the entire group? (●) Yes ( ) No

2) An EP must report all NPI(s) under which encounters were billed during the 90-day reporting period from all locations on which the EP is reporting, even if one or more NPIs is no longer used. Did you report all NPI(s) under which the EP's encounters were billed during the 90-day reporting period, even those not currently in use? (●) Yes ( ) No

3) A Medicaid encounter is defined as services rendered on any one day to an individual where Medicaid or a Medicaid demonstration project under Section 1115 of the Social Security Act paid for part or all of the service.

a) Did you include in the numerator all encounters covered by Medicaid, even where Medicaid paid for only part of a service? (●) Yes ( ) No

b) Did you exclude from the Medicaid Encounters Billed under this NPI denied claims that were never paid at a later date? (●) Yes ( ) No

4) Encounters included in the patient volume numbers must have occurred during the 90-day period attested to above, regardless of when any claims were submitted or paid. Are your patient volume numbers based on date of service and not date of claim or date of payment? (●) Yes ( ) No

5) An encounter is one patient per provider per day and may be different from the number of claims. Do the numbers you entered represent encounters and not claims? (●) Yes ( ) No

6) The denominator must include all encounters regardless of payment method. Did you include encounters in the denominator where services were provided at no charge? (●) Yes ( ) No

7) If you had a different NPI (from the NPI you listed for the provider on the demographics screen) or more than one NPI during the 90-day period, enter that NPI here.

8) If any other provider(s) used your NPI as rendering on Medicaid claims during the 90-day period, list the name(s) and number of Medicaid-paid encounters attributable to that other provider. If none, enter NA. n/a

9) If another provider's NPI was listed as rendering on any of the Medicaid-paid encounters you included in your patient volume, enter that other provider's NPI and number of Medicaid-paid encounters attributable to that other provider. If none, enter NA. n/a

Previous Next

Figure 30 - Individual Patient Volume page

Figure 31 - Group Patient Volume page

Figure 32 - Group Patient Volume page

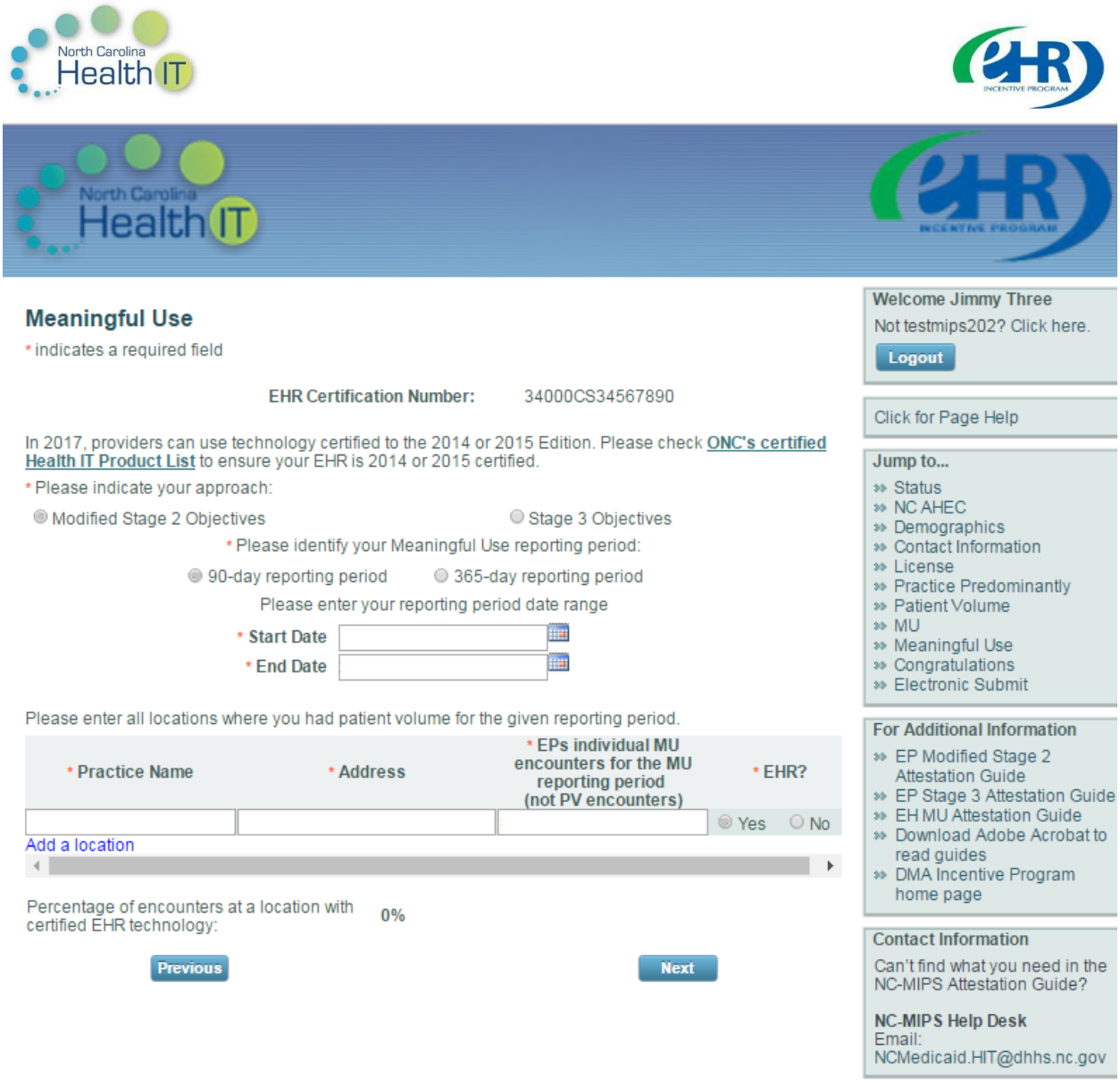


Figure 33 - Meaningful Use page

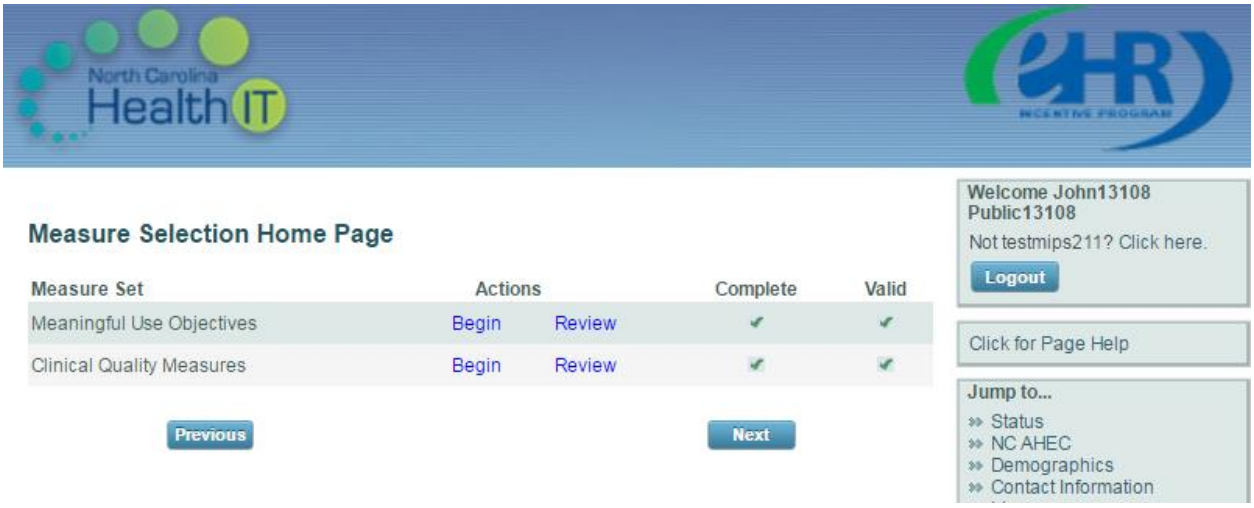


Figure 34 - Measure Selection Home Page

Modified Stage 2 MU Objectives:

Figure 35 - Modified Stage 2 Objective 1

Figure 36 - Modified Stage 2 Objective 2

Figure 37 - Modified Stage 2 Objective 3

Figure 38 - Modified Stage 2 Objective 4

Figure 39 - Modified Stage 2 Objective 5

Figure 40 - Modified Stage 2 Objective 6

Figure 41 - Modified Stage 2 Objective 7

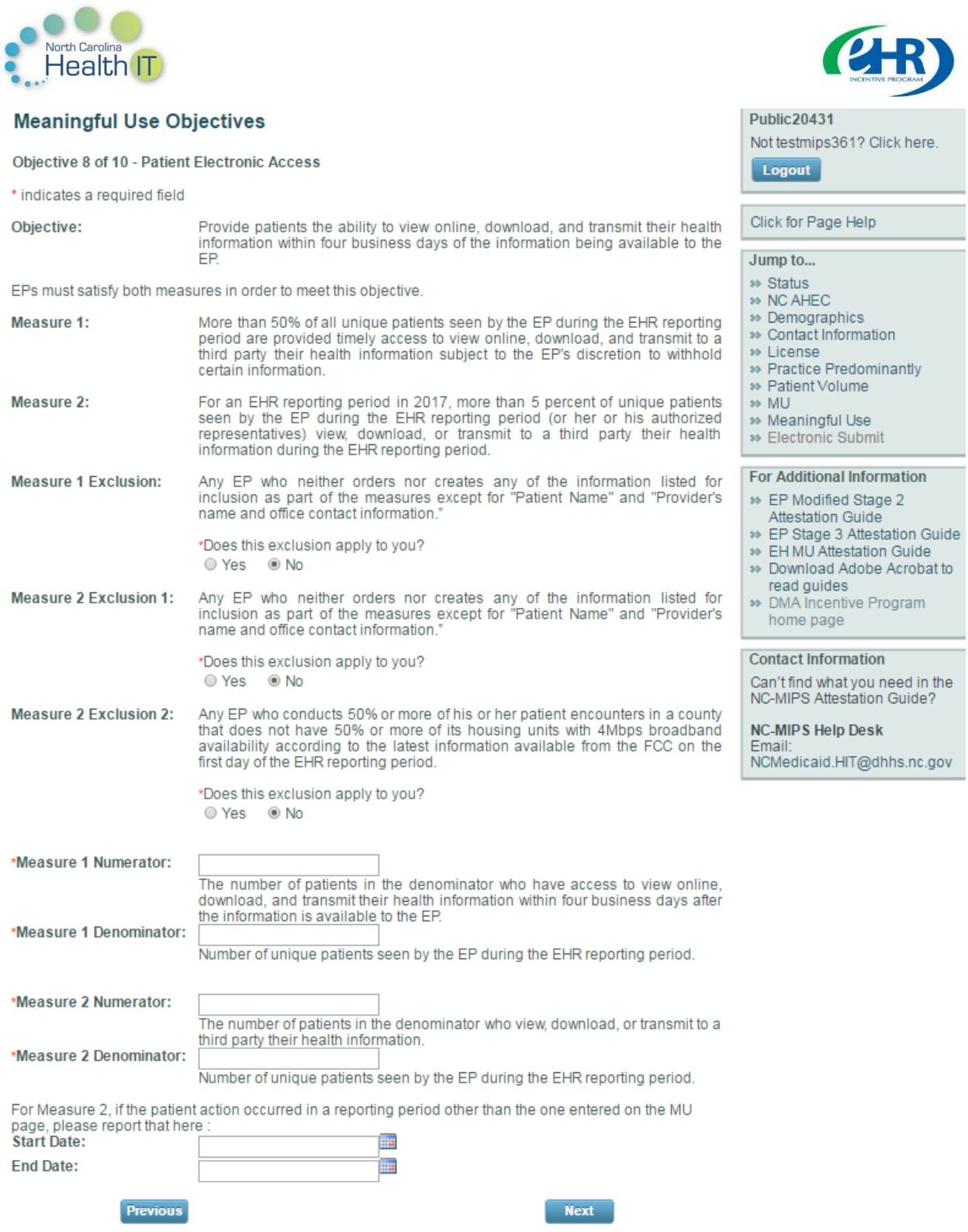


Figure 42 - Modified Stage 2 Objective 8

Figure 43 - Modified Stage 2 Objective 9

Figure 44 - Modified Stage 2 Objective 10

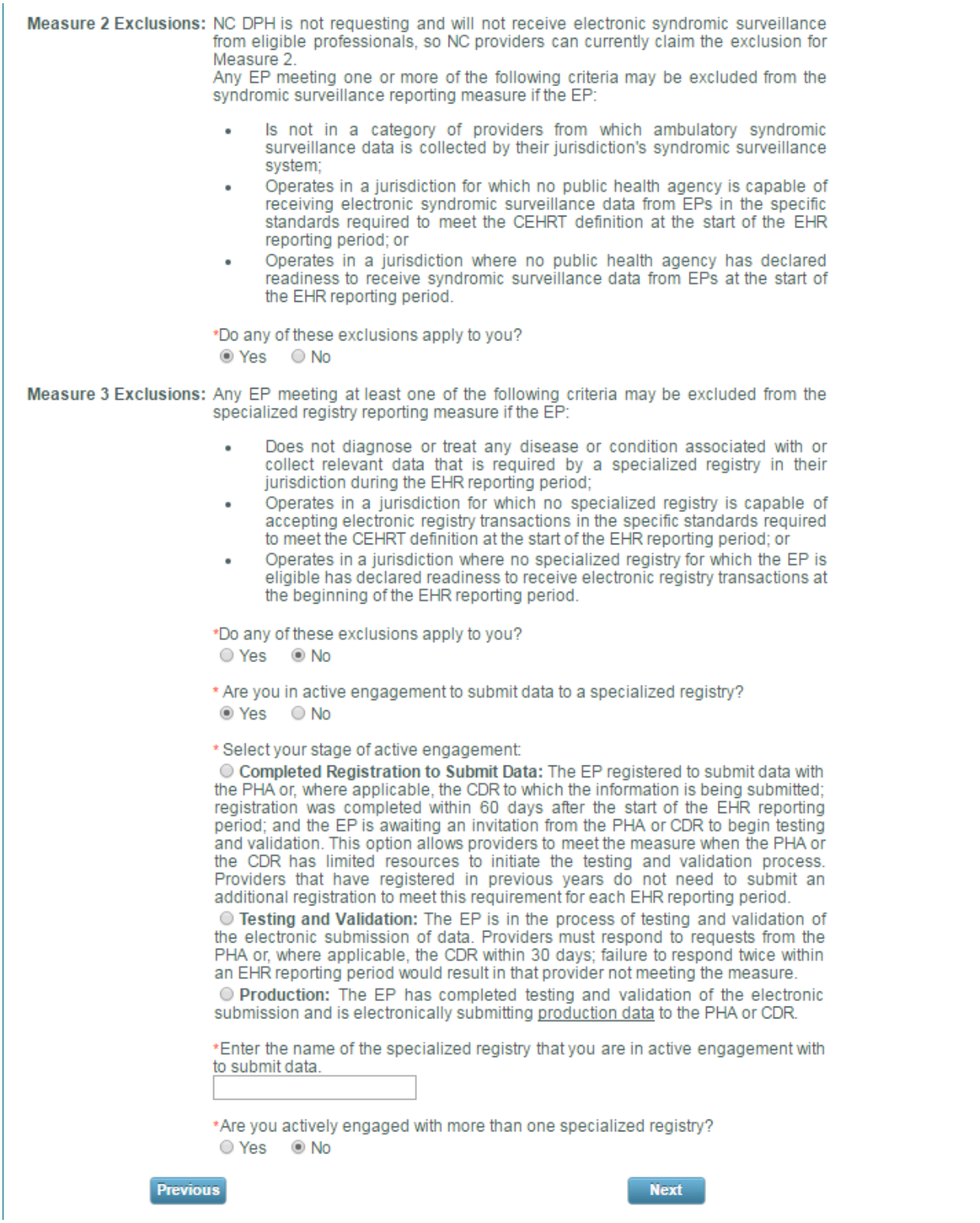


Figure 45 - Modified Stage 2 Objective 10

Figure 46 - Modified Stage 2 MU Objectives Summary page

Stage 3 MU Objectives:

Figure 47 - Stage 3 Objective 1

Figure 48 - Stage 3 Objective 2

Figure 49 - Stage 3 Objective 3

Meaningful Use Objectives

Objective 4 of 8 - Computerized Provider Order Entry (CPOE)

* indicates a required field

Objective: Use computerized provider order entry (CPOE) for medication, laboratory, and diagnostic imaging orders directly entered by any licensed healthcare professional, credentialed medical assistant, or a medical staff member credentialed to and performing the equivalent duties of a credentialed medical assistant, who can enter orders into the medical record per state, local, and professional guidelines.

An EP, through a combination of meeting the thresholds and exclusions (or both), must satisfy all three measures for this objective:

Measure 1: More than 60% of medication orders created by the EP during the EHR reporting period are recorded using computerized provider order entry.

Measure 2: More than 60% of laboratory orders created by the EP during the EHR reporting period are recorded using computerized provider order entry.

Measure 3: More than 60% of diagnostic imaging orders created by the EP during the EHR reporting period are recorded using computerized provider order entry.

Measure 1 Exclusion: Any EP who writes fewer than 100 medication orders during the EHR reporting period.

* Does this exclusion apply to you?
○ Yes ◉ No

Measure 2 Exclusion: Any EP who writes fewer than 100 laboratory orders during the EHR reporting period.

* Does this exclusion apply to you?
○ Yes ◉ No

Measure 3 Exclusion: Any EP who writes fewer than 100 diagnostic imaging orders during the EHR reporting period.

* Does this exclusion apply to you?
○ Yes ◉ No

Patient Records: The provider is permitted, but not required, to limit the measure of this objective to those patients whose records are maintained using certified EHR technology.

* Please select whether the data used to support the measure was extracted from ALL patient records or only from patient records maintained using certified EHR technology.
○ This data was extracted from ALL patient records, not just those maintained using certified EHR technology.
○ This data was extracted only from patient records maintained using certified EHR technology.

Welcome John20431 Public20431

Not testmips361? Click here.

Logout

Click for Page Help

Jump to...

- Status
- NC AHEC
- Demographics
- Contact Information
- License
- Practice Predominantly
- Patient Volume
- MU
- Meaningful Use
- Electronic Submit

For Additional Information

- EP Modified Stage 2 Attestation Guide
- EP Stage 3 Attestation Guide
- EH MU Attestation Guide
- Download Adobe Acrobat to read guides
- DMA Incentive Program home page

Contact Information

Can't find what you need in the NC-MIPS Attestation Guide?

NC-MIPS Help Desk
Email:
NCMedicaid.HIT@dhhs.nc.gov

Figure 50 - Stage 3 Objective 4

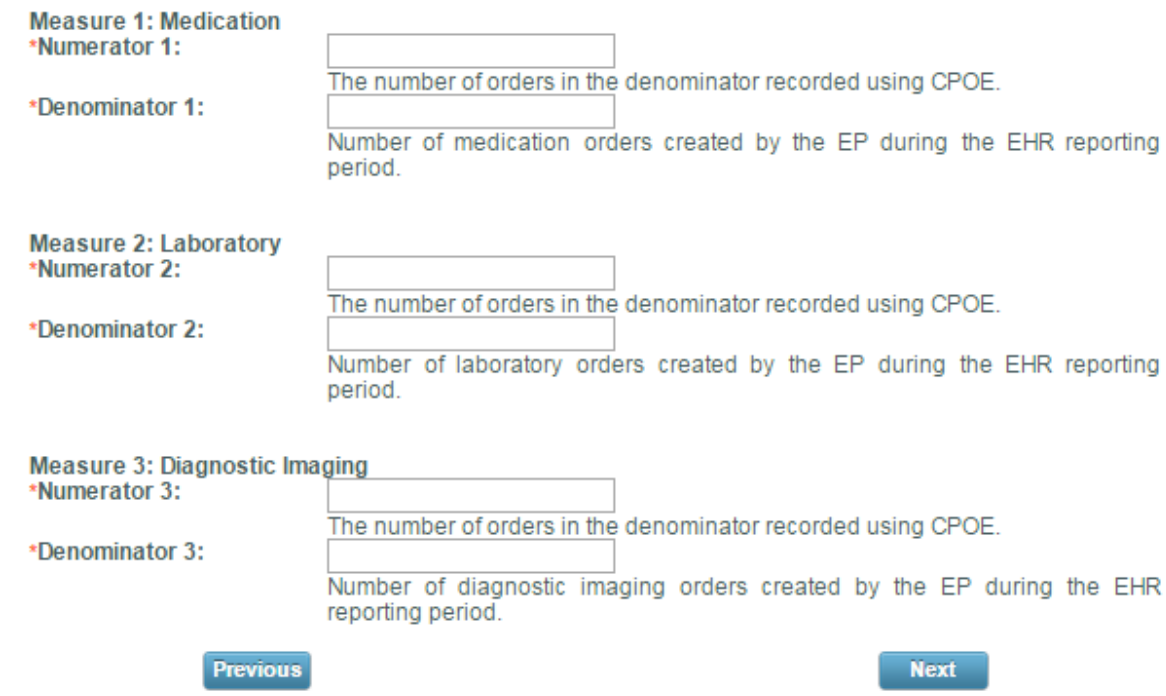


Figure 51 - Stage 3 Objective 4

Figure 52 - Stage 3 Objective 5

Figure 53 - Stage 3 Objective 6

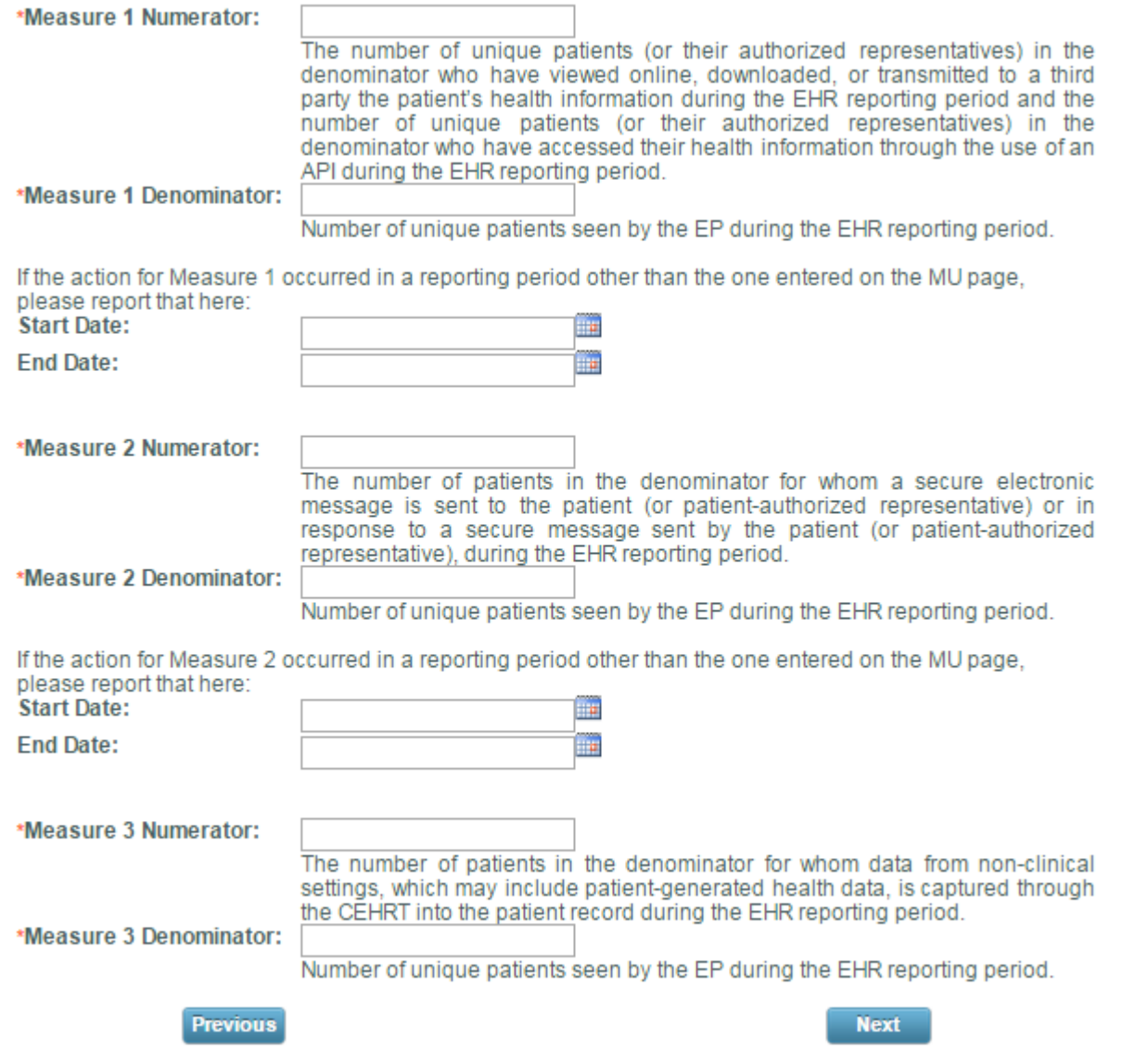


Figure 54 - Stage 3 Objective 6

Figure 55 - Stage 3 Objective 7

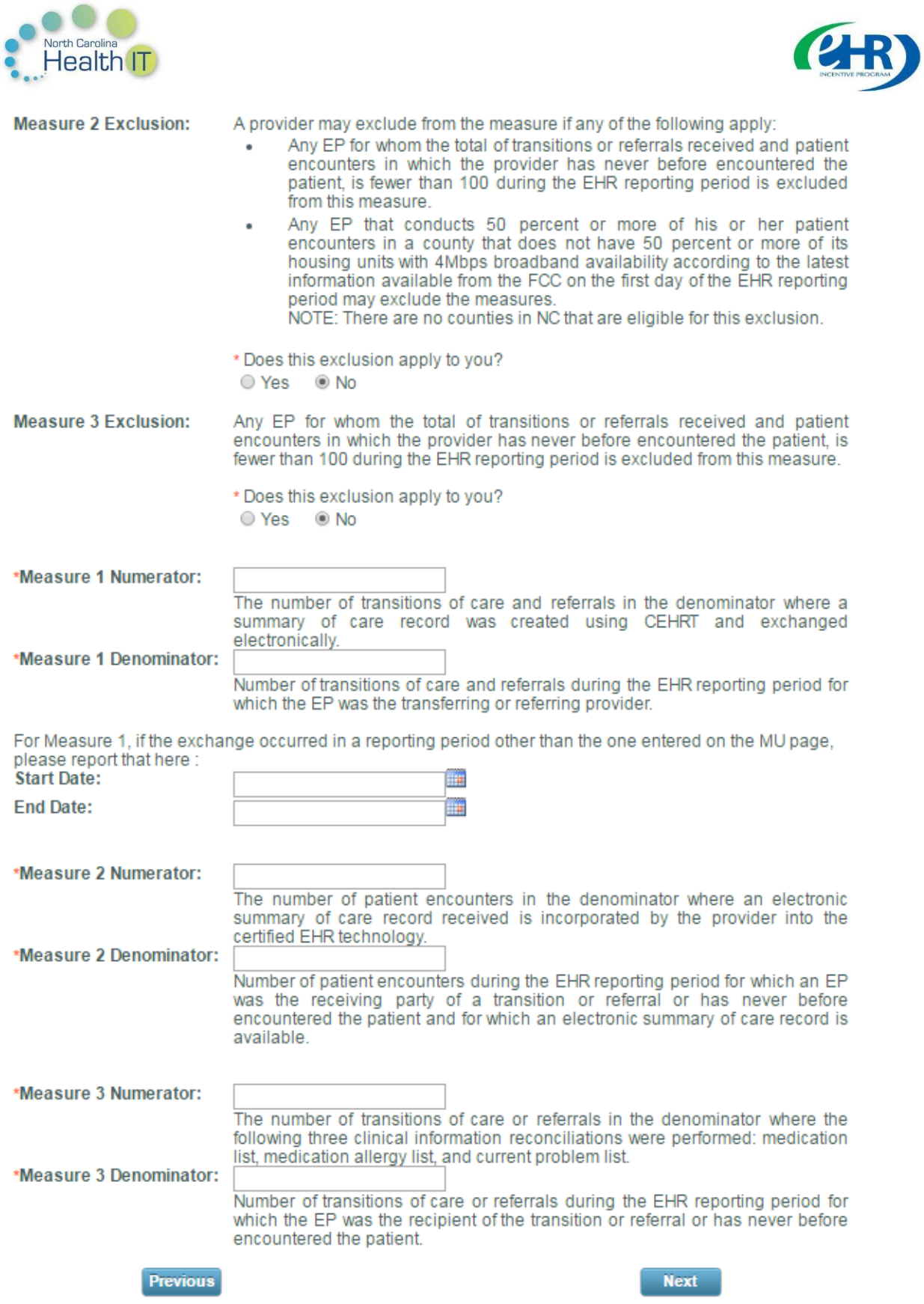


Figure 56 - Stage 3 Objective 7

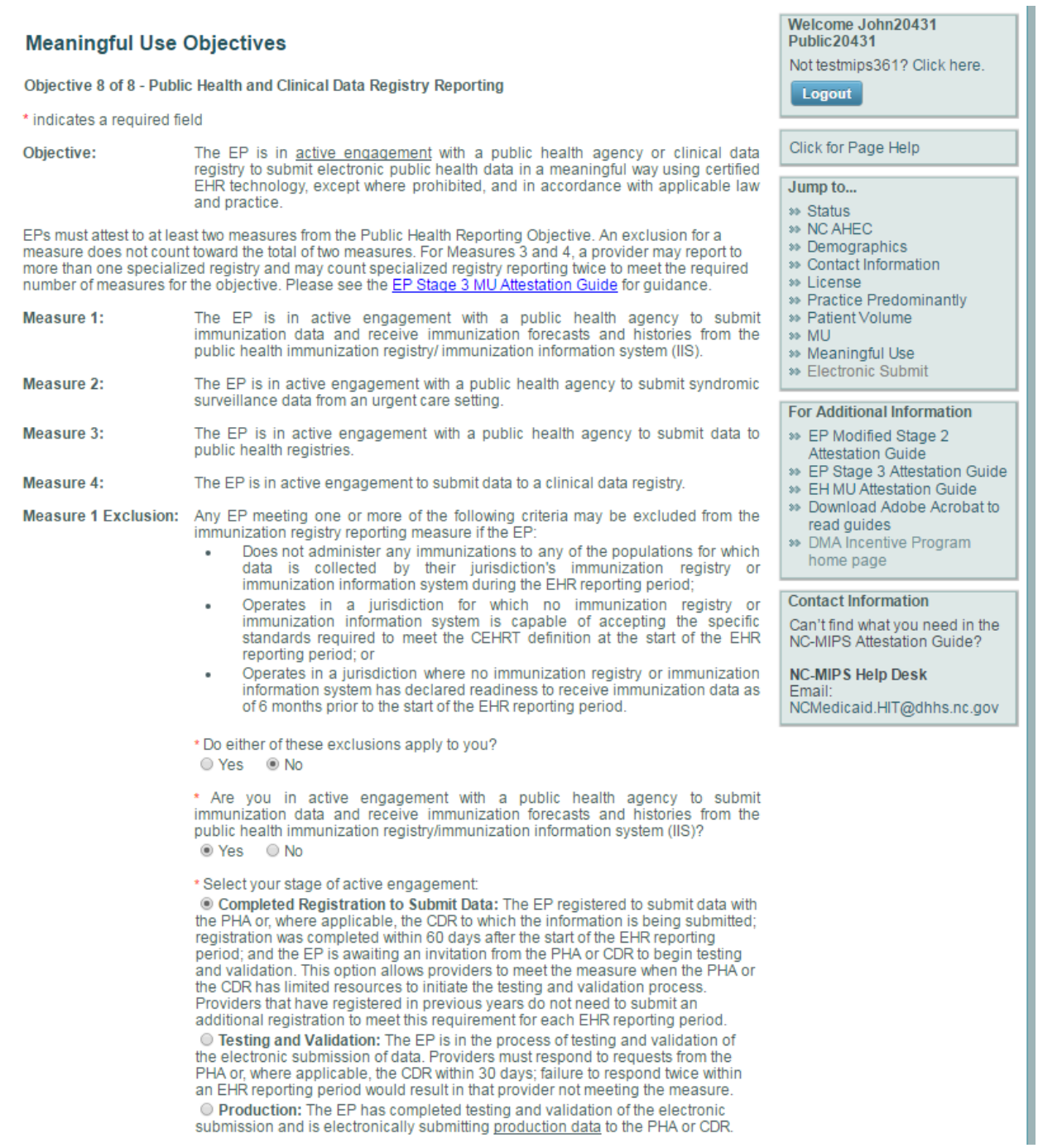


Figure 57 - Stage 3 Objective 8

Measure 2 Exclusion: Any EP meeting one or more of the following criteria may be excluded from the syndromic surveillance reporting measure if the EP:

- Is not in a category of providers from which ambulatory syndromic surveillance data is collected by their jurisdiction's syndromic surveillance system;
- Operates in a jurisdiction for which no public health agency is capable of receiving electronic syndromic surveillance data from EPs in the specific standards required to meet the CEHRT definition at the start of the EHR reporting period; or
- Operates in a jurisdiction where no public health agency has declared readiness to receive syndromic surveillance data from EPs as of 6 months prior to the start of the EHR reporting period.

* Do either of these exclusions apply to you?
(•) Yes ( ) No

Measure 3 Exclusion: Any EP meeting at least one of the following criteria may be excluded from the public health registry reporting measure if the EP:

- Does not diagnose or directly treat any disease or condition associated with a public health registry in their jurisdiction during the EHR reporting period;
- Operates in a jurisdiction for which no public health agency is capable of accepting electronic registry transactions in the specific standards required to meet the CEHRT definition at the start of the EHR reporting period; or
- Operates in a jurisdiction where no public health registry for which the EP is eligible has declared readiness to receive electronic registry transactions as of 6 months prior to the start of the EHR reporting period.

* Do either of these exclusions apply to you?
( ) Yes (•) No

* Are you in active engagement with a public health agency to submit data to public health registries?
(•) Yes ( ) No

* Select your stage of active engagement:

( ) **Completed Registration to Submit Data:** The EP registered to submit data with the PHA or, where applicable, the CDR to which the information is being submitted; registration was completed within 60 days after the start of the EHR reporting period; and the EP is awaiting an invitation from the PHA or CDR to begin testing and validation. This option allows providers to meet the measure when the PHA or the CDR has limited resources to initiate the testing and validation process. Providers that have registered in previous years do not need to submit an additional registration to meet this requirement for each EHR reporting period.

( ) **Testing and Validation:** The EP is in the process of testing and validation of the electronic submission of data. Providers must respond to requests from the PHA or, where applicable, the CDR within 30 days; failure to respond twice within an EHR reporting period would result in that provider not meeting the measure.

( ) **Production:** The EP has completed testing and validation of the electronic submission and is electronically submitting production data to the PHA or CDR.

*Enter the name of the public health registry that you are in active engagement with to submit data.

*Are you actively engaged with more than one public health registry?
( ) Yes (•) No

Figure 58 - Stage 3 Objective 8

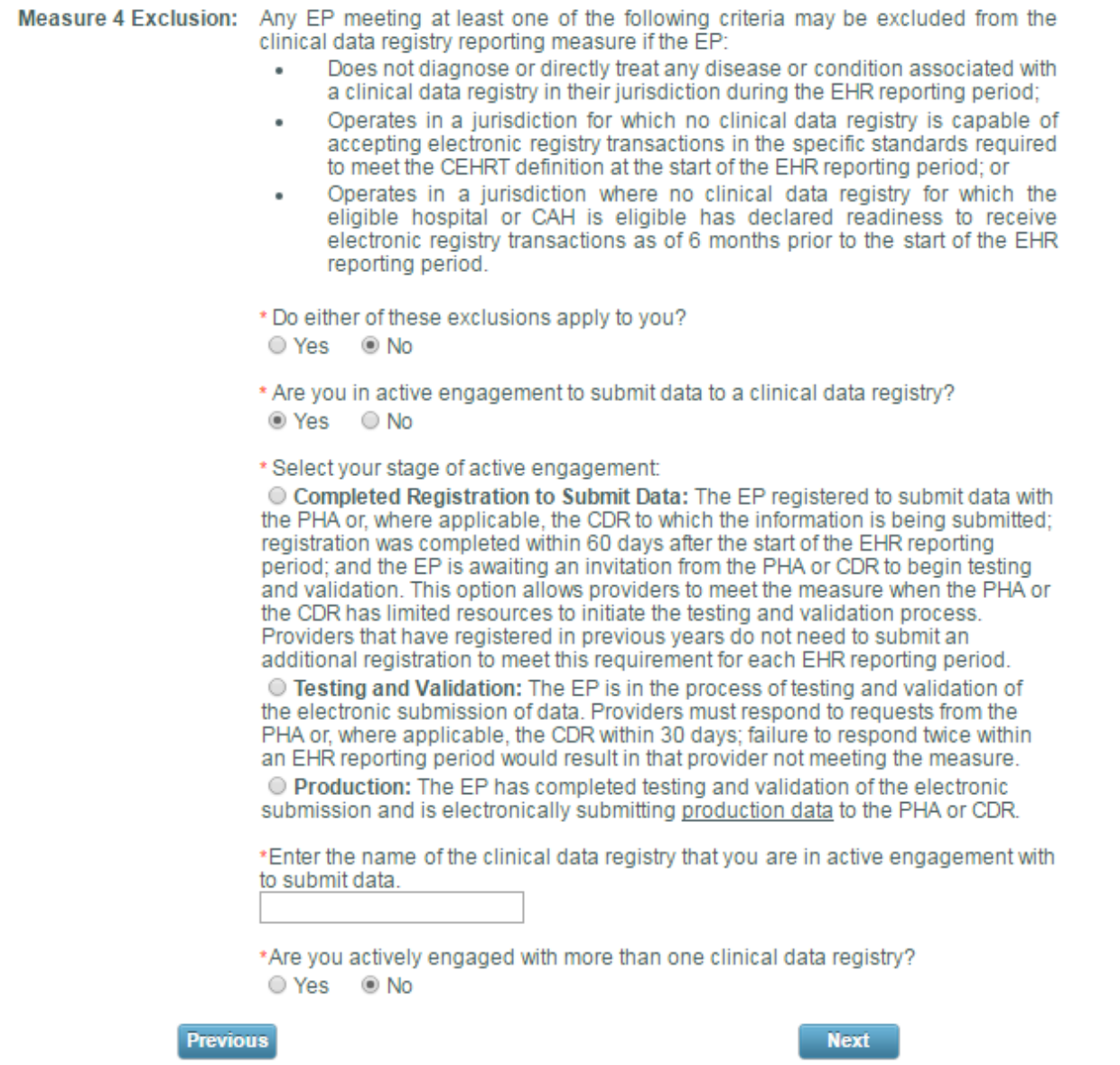


Figure 59 - Stage 3 Objective 8

Figure 60 - Stage 3 MU Objectives Summary page

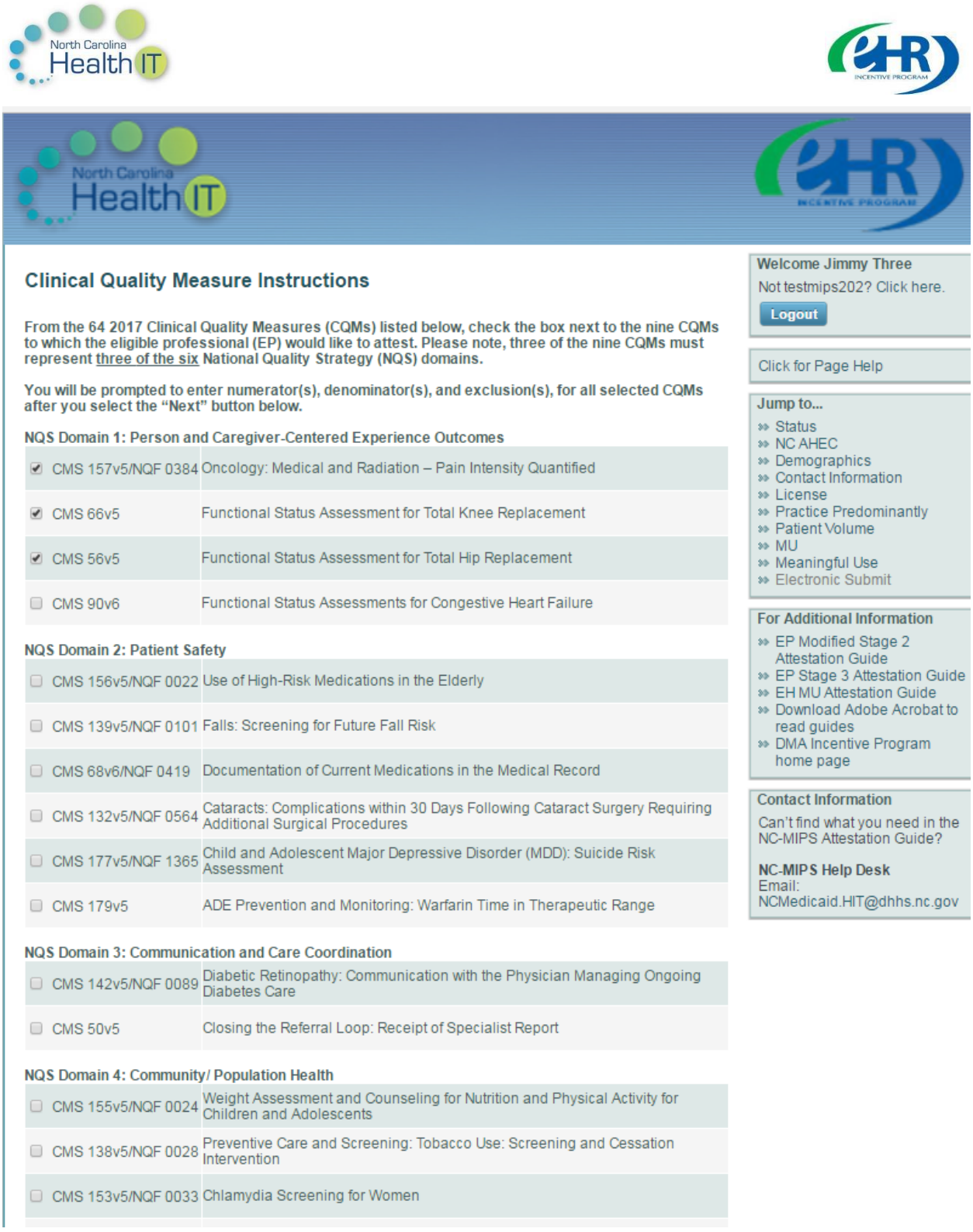


Figure 61 - CQM Instructions page

Figure 62 - CQM Summary page

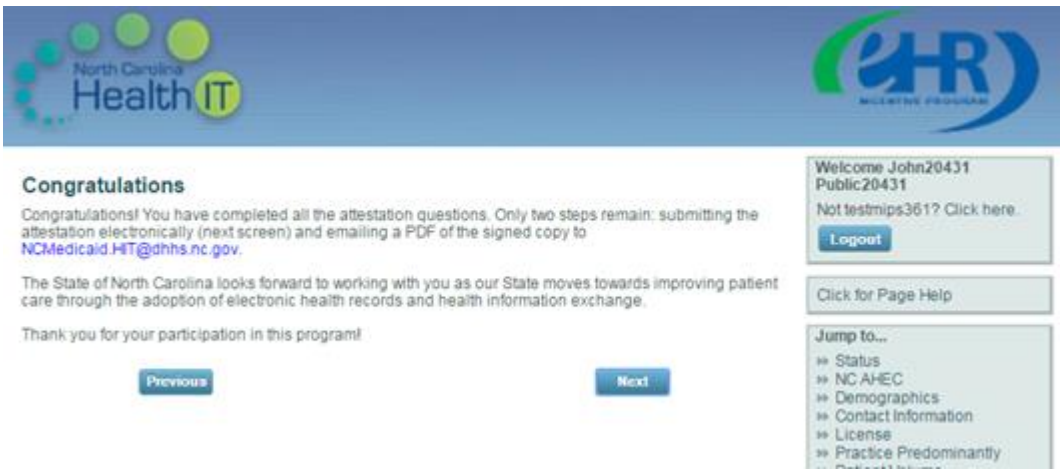


Figure 63 - Congratulations page

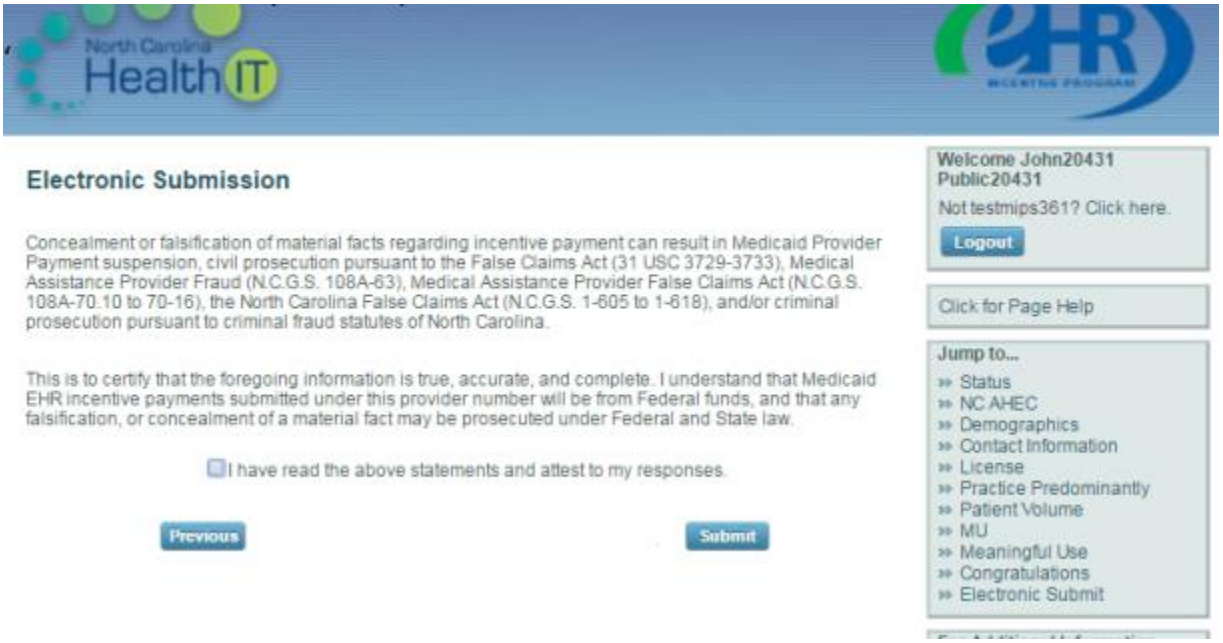


Figure 64 - Electronic Submission page

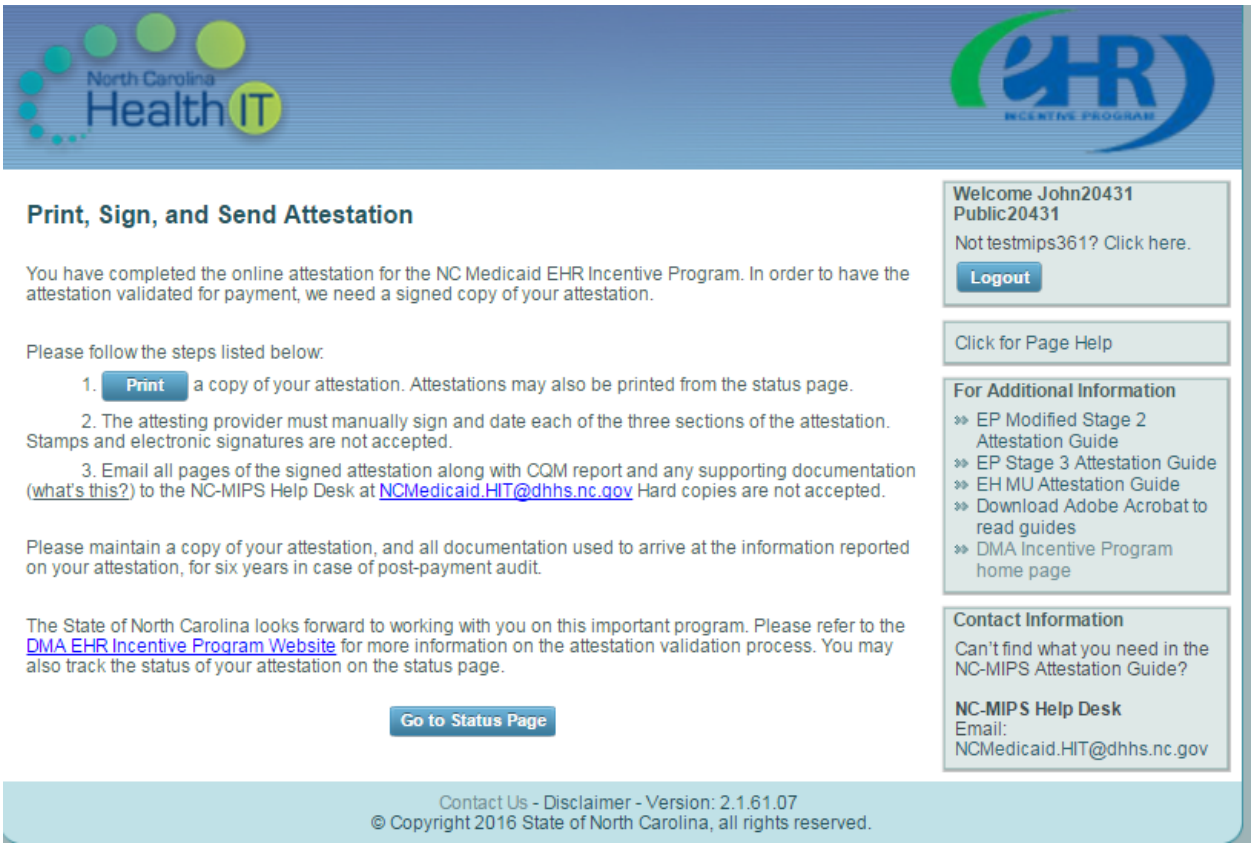


Figure 65 - Print, Sign, Send page

Appendix 3 - Meaningful Use Objectives

- 2017 Stage 3 Specification Sheets for EPs and hospitals
- 2017 Modified Stage 2 Specification Sheets for EPs and hospitals
- 2016 Specification Sheets for EPs and hospitals and CAHs
- 2015 Specification Sheet for Eligible Professionals
- 2015 Specification Sheet for Eligible Hospitals and CAHs
- Stage 2 Specification Sheet Table of Contents for Eligible Professionals
- Stage 2 Specification Sheet Table of Contents for Eligible Hospitals and CAHs
- Stage 1 Eligible Professional Attestation Worksheet (2014 Definition)
- Stage 1 Eligible Hospital and CAH Attestation Worksheet (2014 Definition)
- Eligible Professional 2013 Definition Spec Sheets
- Eligible Hospital 2013 Definition Spec Sheets

Appendix 4 – Patient Volume Methodology Provider Guidance

Group Methodology for Patient Volume Reporting

'**Group**' means one or more eligible professionals practicing together at one practice location or at multiple practice locations within a logical geographical region under the same healthcare organization.

At a single location...

Dr. Jones

Dr. Jones works here

Raleigh location of ABC Healthcare

If Dr. Jones chooses group methodology and defines the group as a single practice location (the Raleigh location of ABC Healthcare), she must attest using the encounters from EVERY professional (eligible professionals such as MDs and non-eligible professionals such as RNs, phlebotomists, etc.) at this location who provided services within the group's consecutive 90-day reporting period from the prior year.

In other words, if an eligible professional defines the group as a single practice location, every professional's encounters at that location must be accounted for when calculating patient volume.

Please note, so long as a new provider has an 'appropriate' current affiliation with a practice, they do not need to have been with the group during the group's selected reporting period to attest using group methodology.

Figure 66 - Group Method - One Location

Group Methodology for Patient Volume Reporting

'**Group**' means one or more eligible professionals practicing together at one practice location or at multiple practice locations within a logical geographical region under the same healthcare organization.

At several practice locations in the same town, city, region or part of the state...

If Dr. Jones chooses group methodology and defines the group so that it consists of the practice locations within a logical geographical region (the Triangle Region), she must attest using the encounters from EVERY professional (eligible professionals such as MDs and non-eligible professionals such as RNs, phlebotomists, etc.) at the locations within her defined region who provided services the group's chosen consecutive 90-day reporting period from the prior year. Please note, EPs are required to report on at least one location with certified EHR technology.

In other words, if an eligible professional defines the group so that it consists of the practices within a logical geographical region, every professional's encounters within the practice locations in this region must be accounted for when calculating patient volume.

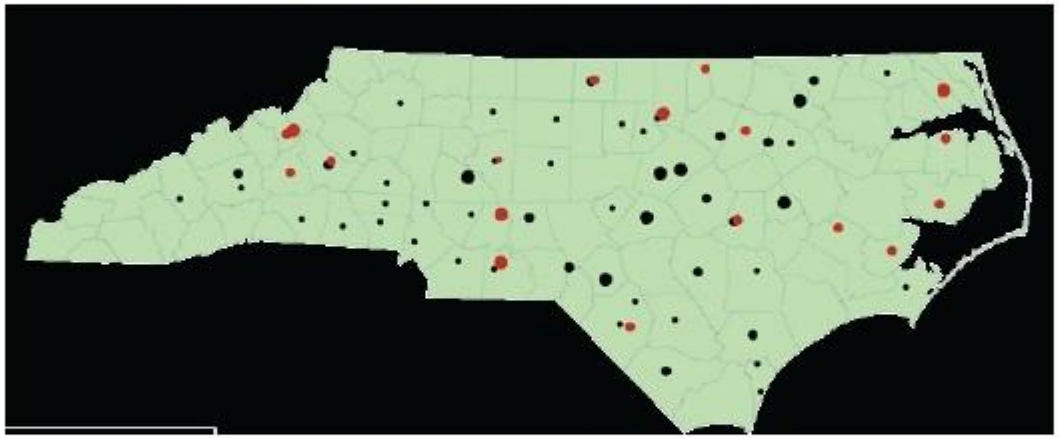
Please note, so long as a new provider has an 'appropriate' current affiliation with a practice, they do not need to have been with the group during the group's selected reporting period to attest using group methodology.

Figure 67 - Group Method - Same Region

Group Methodology for Patient Volume Reporting

'**Group**' means one or more eligible professionals practicing together at one practice location or at multiple practice locations within a logical geographical region under the same healthcare organization.

A state-wide organization...



If Dr. Jones chooses group methodology and defines the group so that it includes all practice locations of ABC Healthcare across the state, she must attest using the encounters from EVERY professional (eligible professionals such as MDs and non-eligible professionals such as RNs, phlebotomists, etc.) at all practice locations across the state who provided services within the groups' chosen consecutive 90-day reporting period from the prior year. Please note, EPs are required to report on at least one location with certified EHR technology.

In other words, if an eligible professional defines the group as including every practice location in the state, every professional's encounters within every practice in the state must be accounted for when calculating patient volume.

Please note, so long as a new provider has an 'appropriate' current affiliation with a practice, they do not need to have been with the group during the group's selected reporting period to attest using group methodology.

Figure 68 - Group Method - Statewide

Individual Methodology for Patient Volume Reporting

At a single location...

Dr. Jones

Dr. Jones works here

Raleigh location of ABC Healthcare

Dr. Jones has two options for reporting Patient Volume using individual methodology for a single location:

1. She can report the number of encounters she (and she alone) has had in a consecutive 90-day period from the prior year; or,
2. She can report the number of patient encounters that she has had, **and** the patient encounters of staff she directly supervises, during the same consecutive 90-day period from the prior year.

In other words, if Dr. Jones supervises any staff, such as X-Ray Technicians, Registered Nurses, Lab Technicians, etc., she can count their total patient encounters toward meeting her patient volume threshold.

Regardless of the encounters Dr. Jones chooses to count toward Patient Volume, she will need to be consistent in applying the encounters in both the numerator and denominator.

Figure 69 - Individual Method - One Location

Individual Methodology for Patient Volume Reporting

At more than one location…

Dr. Jones may use encounters from multiple locations, but is not required to report on more than one location, but it is required to report on at least one location with certified EHR technology. She has two options for reporting patient volume from either or both locations using individual methodology for multiple locations:

1. She can report the number of encounters she (and she alone) has had in a consecutive 90-day period from the prior year; or,
2. She can report the number of patient encounters that she has had, **and** the patient encounters of staff she directly supervises, during the same consecutive 90-day period from the prior year.

In other words, if Dr. Jones supervises any staff, such as X-Ray Technicians, Registered Nurses, Lab Technicians, etc., she can count their total patient encounters toward meeting her patient volume threshold. Please note, EPs are required to report on at least one location with certified EHR technology.

Regardless of the encounters Dr. Jones chooses to count toward patient volume, she will need to be consistent in applying the encounters in both the numerator and denominator.

Figure 70 - Individual Method - Multiple Locations

Appendix 5 – Webinar Library

Quick Tip Webinar series

If you're short on time, these are the webinars for you! They are 2-7 minutes covering the basics on a wide variety of EHR Incentive Program topics.

Keep in mind, these are a high-level overview of pertinent information, and are not meant to be all-inclusive. They serve as a point of reference and will give you the important need to know information.

NC Medicaid EHR Incentive Program Introduction (Run time: 3:10)

Registering on CMS' Registration & Attestation System (Run time: 3:26)

Getting an NCID (Run time: 1:41)

Creating an NC-MIPS First Time Account Setup (Run time: 2:36)

Patient Volume (Run time: 6:37)

Meaningful Use (Run time: 5:06)

After the Attestation is submitted on NC-MIPS: Next Steps (Run time: 4:05)

Processing an Attestation: What we do after the paperwork is submitted (Run time: 4:14)

Resources for the NC Medicaid EHR Incentive Program (Run time: 4:17)

Audits: What to Expect (Run time: 6:04)

NC Medicaid EHR Incentive Payments (Run time: 5:48)

NCID Username Update Tool (Run time: 1:51)

Returning Providers: Tips for Making Your Next Attestation Go Smoothly (Run time: 5:06)

Outreach: When there are attestation discrepancies (Run time: 6:30)

Comprehensive Webinars

Introductory Webinar

Need some help getting started? Click here for an overview of the NC Medicaid EHR Incentive Program and how to start attesting. (WMV, 179,220KB)

Preparing for Attestation and Patient Volume Webinar

The Division of Medical Assistance's Health Information Technology team did a training session for the NC Area Health Education Centers (AHEC). The recording is meant to serve as a helpful resource for any EP who is attesting for the first time or any EP who needs a refresher on best practices when attesting. It provides tips on how to effectively prepare for attestation and how to calculate patient volume. It also points EPs to resources that will be needed during attestation. Click here for the webinar.

For a copy of the complete slide deck (with notes), please click here. (PowerPoint, 6,545KB)

Patient Volume: Incident to Webinars

Whether an EP is billing under another physician's NPI or an EP has other physicians billing under their NPI, incident to is not an uncommon way providers bill Medicaid. In order to help explain incident to in

relation to the NC Medicaid EHR Incentive Program, our patient volume expert put together a detailed, in-depth look at how to report incident to billing in NC-MIPS.

To see the incident to webinar, please click here.

To see a webinar explaining an example of incident to with multiple providers, please click here. For the complete slide deck (with notes), please click here. (PowerPoint, 5,120KB)

To see a webinar explaining a more basic example of incident to, please click here. For the complete slide deck (with notes), please click here. (PowerPoint 4,701KB)

To see a comprehensive overview of incident to webinar, please click here. For the complete slide deck (with notes), please click here. (PowerPoint 5,568 KB)

Patient Volume Outreach Email Explained

When we are unable to verify a provider's PV because the number we can verify based on claims paid to the billing NPI is lower than the EP's reported number we will send the provider an outreach email. This webinar explains that outreach email in more detail.

Patient Volume: Top PV Errors

Click here to watch the "Top PV Errors" webinar and avoid making the most common PV mistakes.

Audit **Webinar**

For a high-level overview of the auditing procedures of the HIT Investigation Team, please click here. (WMV file, 8,838KB) For a copy of the slide deck, click here. (PowerPoint, 66KB)

Attesting in NC-MIPS Webinar

To see the NC-MIPS Attestation Guides come to life, click here.

Appendix 6 – Final Participation Year Outreach Campaign

Program Year 2016 Outreach

6/22/16 - Developed communication plan for Program Year 2016 AIU outreach campaign.

The intent of the Program Year 2016 AIU outreach campaign is to spread awareness to providers that Program Year 2016 is the last year to begin participating in the Program and that the deadline to attest is April 30, 2017.

The outreach message was distributed through partner and stakeholder groups:

8/16/16 – Email on 2016 deadline sent to partner organizations, including representatives from the organizations below, to share with their constituents:

- NC AHEC;
- NC HIE;
- NC Office of Rural Health;
- NC Community Health Centers Association;
- NC Medical Society;
- NC Dental Society;
- NC Medical Group Managers;
- NC Healthcare Information & Communications Alliance;
- NC Pediatric Society;
- NC Psychiatric Association;
- NC Academy of Family Practice;
- NC Academy of Physicians Assistants;
- NC Psychiatric Association; and,
- NC Council of Nurse Practitioners.

8/17/16 – Article on 2016 deadline posted on NC AHEC's website and news feed.

8/24/16 – Condensed 2016 outreach message added to every member of the NC Medicaid EHR Incentive Program team's signature line.

8/29/16 – Article on 2016 deadline posted in SEAHEC's Practice Newsletter.

9/21/16 – Article on 2016 deadline posted to NCTracks' Provider Announcements webpage.

9/21/16 - NC Providers Council 2016 Annual Conference at the Greensboro Sheraton Hotel at Four Seasons. NC OHIT director's presentation included information on the NC Medicaid EHR Incentive Program and a reminder that Program Year 2016 is the last opportunity to begin participating.

9/22/16 – Blast email on 2016 deadline sent through NCTracks to reach all Medicaid providers.

10/28/16 – Article on 2016 deadline distributed in NCHICA's October Newsletter.

11/1/16 – Email on 2016 deadline sent to representatives from large groups, including:

- UNC Health Care;
- Duke Health;
- Brody School of Medicine at ECU;
- Goshen Medical Center;

- Daymark Recovery Services;
- Wake Med Health and Hospitals;
- Novant Health;
- Carolinas Healthcare System; and,
- Wake Forest Baptist Health.

1/17/17 – Program manager presented program overview for NC Association of Public Health Nurse Administrators and emphasized that Program Year 2016 is the last opportunity to begin participating.

1/31/17 – Article on 2016 deadline posted in the LME-MCO Joint Communication Bulletin.

2/1/17 – Article on 2016 deadline posted in the NC Dental Society's e-newsletter.

2/17/17 – Article on 2016 deadline distributed through ORHCC.

3/1/17 – Worked with NC AHEC liaison to post 2016 outreach message in all NC AHEC newsletters.

4/7/17 – Email sent to previously denied participants encouraging them to re-attest for Program Year 2016 before the end of our attestation tail period on 4/30/17.

Program updates and 2016 outreach message included in the NC Medicaid Provider Bulletin (archived copies available here):

- August 2016
- September 2016
- October 2016
- November 2016
- December 2016
- January 2017
- February 2017
- March 2017
- April 2017

Appendix 7 - Denial for EHR Incentive Program Payment

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF MEDICAL ASSISTANCE

ROY COOPER
GOVERNOR

MANDY COHEN, MD, MPH
SECRETARY

DAVE RICHARD
DEPUTY SECRETARY FOR MEDICAL ASSISTANCE

TO: Jane Doe and John Smith

FROM: The NC Medicaid EHR Incentive Program, Provider Relations Team

DATE: June 15, 2017

SUBJECT: Denial of Program Year 2017 Payment

The NC Medicaid Electronic Health Record (EHR) Incentive Program's team is granted the authority to administer the NC Medicaid EHR Incentive Program per 42 CFR Parts 412, 413 and 495. The Centers for Medicare and Medicaid Services' (CMS) 42 CFR 495 requires each state to submit and receive CMS approval for all pre-payment validations. The Program's team is required to follow the same procedure for each attestation received and is not permitted to deviate from the CMS-approved validation process. If an eligible professional (EP) does not meet the eligibility requirements, and the information provided in NC-MIPS is not accurate or valid, federal funds cannot be issued.

In response to the attestation last submitted on June 1, 2017, the Program's team has denied your request for an NC Medicaid EHR incentive payment. The request is being denied due to invalid patient volume. The number we can verify based on claims paid to the reported billing NPI*(s)* is lower than your reported number.

As you did not meet eligibility requirements for meaningful use (MU), you fail to meet EHR program eligibility pursuant to CFR 42 495.366 (c). For additional information, please refer to the outreach email(s) sent on April 30, 2017 and May 15, 2017.

When denied, all providers in the NC Medicaid EHR Incentive Program may attest for a later program year without penalty. In other words, though you were denied for a third-year payment, you still have the opportunity to attest and receive the third-year payment of $8,500 for Program Year 2017. You can still receive the full incentive payment of $63,750 if you successfully attest for six program years by 2021.

Please visit NC-MIPS at http://ncmips.nctracks.nc.gov/ to attest for Program Year 2017. If you have questions regarding this denial, please contact the Program Help Desk by email at NCMedicaid.HIT@dhhs.nc.gov.

If additional assistance is needed within your practice, please contact one of our technical assistance partners, located on the 'Contact Us' tab of the NC Medicaid EHR Incentive Program's website.

If you disagree with this decision you may request a hearing within fifteen (15) working days of the date of this letter by submitting a request to:

Chief Hearing Officer
DHHS Hearing Office
2501 Mail Service Center
Raleigh, North Carolina 27699-2501
Fax: 919-814-0032

WWW.NCDHHS.GOV
MAILING ADDRESS: 2501 MAIL SERVICE CENTER • RALEIGH, NC 27699-2501
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

You may request a telephone or personal hearing. Please include a copy of this denial letter and any written documentation for review. The documentation must be received within fifteen (15) working days from the date of this letter in order to be considered.

If you request a personal hearing, the hearing will be scheduled in the DHHS Raleigh office. Following reconsideration review, you will be notified in writing of the decision.

If you do not request a reconsideration review or if you disagree with the reconsideration review decision, you may file a petition for a contested case hearing with the Office of Administrative Hearings (OAH) in accordance with G.S. § 150B-23(a). You have sixty (60) calendar days from the date of this letter or the date of the reconsideration review decision to **file** a contested case petition with the OAH. Petition forms are available on the OAH website at http://www.oah.state.nc.us/forms.html. There may be a fee associated with filing a petition at OAH. If you have questions about the OAH appeal process or the filing fee, OAH can be reached directly at (919) 431-3000.

You **must** file the contested case petition form with the Office of Administrative Hearings, either in person at 1711 New Hope Church Road, Raleigh, NC 27609, by mail at 6714 Mail Service Center, Raleigh, NC 27699-6714, by fax during normal business hours by faxing the petition to the Clerk's Office at (919) 431-3100, or by electronic mail by an attached file either in PDF format or a document that is compatible with or convertible to the most recent version of Word for Windows by sending the electronic transmission to: oah.clerks@oah.nc.gov. Electronic mail without attached file shall not constitute a valid filing. OAH must receive the original signed document and one copy along with the appropriate fee, within seven (7) business days following the fax or electronic transmission date. In addition, you must mail a copy to Legal Counsel, NC Department of Health and Human Services. 101 Blair Drive, Raleigh, NC 27603.

WWW.NCDHHS.GOV
MAILING ADDRESS: 2501 MAIL SERVICE CENTER • RALEIGH, NC 27699-2501
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

Figure 71 – Sample Denial Letter